NEW EQUIPMENT DIGEST

A Penton Publication

February, 1960

Volume 25 — Number 2

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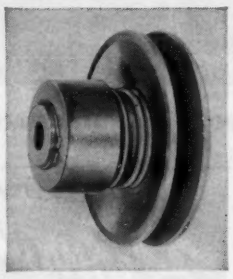
CHECK AND PASS ALONG

✓	NAME	See No.

Use Inquiry Slips—Pages 4 and 100

EQUIPMENT • MATERIALS • PROCESSES • DESIGNS • APPLICATIONS • LITERATURE

VARIABLE SPEED PULLEYS
in fractional to 1-hp sizes



Line of variable speed pulleys for original equipment or replacement use comprises five sizes ranging from fractional to 1 hp, with speed ratios up to 2.8 to 1. As easy to install as an ordinary V-belt drive, pulley adjusts to a wide range of speeds. The economical, compact units have curved pulley faces, high ratio for small face diameter, and positive lubrication. • **Lovejoy Flexible Coupling Co.**, 4891 W. Lake St., Chicago 44, Ill.

▲ For more details circle NED-1 B on enclosed inquiry slip ▲

SOLENOID VALVE
cycles over 1000 times per minute

Short poppet travel, dust and liquid-tight seal, JIC design, and 5/32-in. minimal internal orifice on the normally closed side are features of the lightweight Pacer solenoid valve. It cycles in excess of 1000 times per minute and requires only 7 w of power. Four-way model with cast aluminum body weighs only 28 oz. It handles 15 to 150 psi and accommodates 1/8 and 1/4-in. pipe. Valve can be manually actuated and is inoperative with the cover removed. • **Ross Operating Valve Co.**, 120 E. Golden Gate Ave., Detroit 3, Mich.

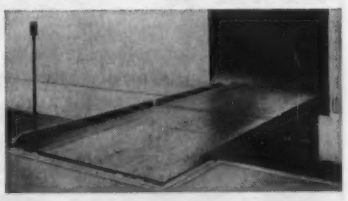
▲ For more details circle NED-2 B on enclosed inquiry slip ▲

PRESSURE-SENSITIVE NAMEPLATES
adhere to any smooth surface

Pressure-sensitive backing on Name-Stik brilliant metal foil nameplates allows application to metal, ceramics, plastics, glass, wood, or virtually any smooth surface. Low in unit cost, Name-Stiks also afford lower application costs. Printed and embossed samples are included in a test kit sent free upon request. • **Allen Hollander Co.**, 385 Gerard Ave., New York 51, N. Y.

▲ For more details circle NED-3 B on enclosed inquiry slip ▲

CROSSOVER BRIDGE
bascule type crosses railroad tracks



Decks of this double-leaf bascule type crossover bridge are positioned by pushbutton control from either side and powered by protected electric - hydraulic units. It forms a roadway across roads and railroad tracks, thereby eliminating detours and ramps. As the deck moves from a vertical position recessed within the building line to a horizontal position, hinged legs automatically lower for deck support. Nonskid or smooth plate decks are welded to the structural steel bridge. Width is 8 ft, span is 21 ft, and capacity is 25,000 lb. • **Rowe Methods Inc.**, 2534 Detroit Ave., Cleveland 13, Ohio.

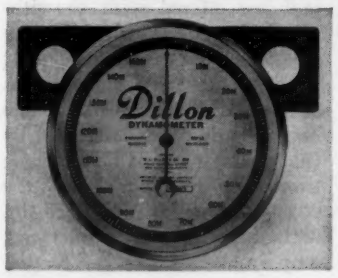
▲ For more details circle NED-4 B on enclosed inquiry slip ▲

TEE FORMING TOOL
draws tee from copper tube in 5 min

Pipemaster Tee Turner reduces the number of soldered joints at each tee in a copper pipe line from three to one by forming the fitting in the pipe itself. Copper tube is locked into the device's clamp, a pilot hole is cut, and a forged spinner is inserted and turned until the copper wall is pushed upward to form the tee without heating. Entire operation takes less than 5 min. Tool can be used on 1 1/4 to 4-in. sizes. Formed tee withstands liquid pressures exceeding 1000 psi. Kits contain series of clamps, hole saws, spinners, and wrenches to fit various tube sizes. • **Erie Tool Works**, 735 W. 12th St., Erie, Pa.

▲ For more details circle NED-5 B on enclosed inquiry slip ▲

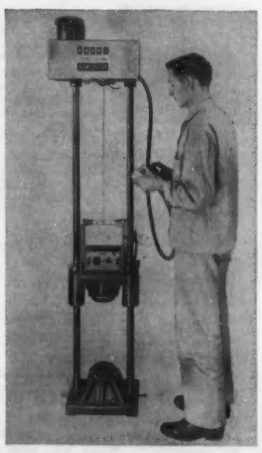
DIRECT-READING DYNAMOMETER
150,000 and 200,000-lb capacities



Made to withstand rough usage, two direct - reading, traction type dynamometers have a heavy metal case and a 10-in. dial of 22-gage brass, protected by a 1/4-in. thick plastic crystal. The 150,000 and 200,000-lb capacity models are additions to a line now comprising 15 models with capacities ranging upward from 0 to 500 lb. Both new units weigh 23 lb, independent of shackles, pins, and shunt bar. Features include resettable red maximum hand which stays at point of peak load, removable drop forged steel clevises, built-in overload protection, and accuracy within ±2 per cent of full load. • **W. C. Dillon & Co.**, 14620 Keswick St., Van Nuys, Calif.

▲ For more details circle NED-6 B on enclosed inquiry slip ▲

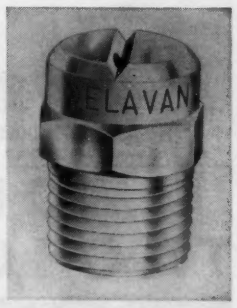
SHOCK TESTING MACHINE
gravity type tests 20-lb specimens



Production and lab testing of small electronic and mechanical components weighing up to 20 lb and occupying an 8-in. cube is function of Type 16750 Varipulse shock machine. It provides accurate and repeatable half-sine, saw-tooth, and square wave pulses. The gravity-type machine has a remote pushbutton control and a disconnect interlock for safety. It operates on 110 v. When resilient pads are used for half-sine pulses, elevator table is mechanically caught at peak of rebound to assure an undistorted pulse. Unit stands 7 ft 3 in. high and occupies 12 x 16-in. floor space. • **Barry Controls Inc.**, 700 Pleasant St., Watertown 72, Mass.

▲ For more details circle NED-7 B on enclosed inquiry slip ▲

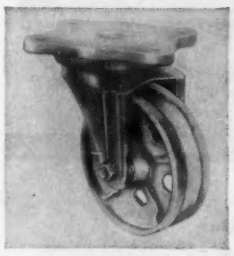
FLAT SPRAY NOZZLES
now offered in polyvinyl chloride



Standard line of WF flat spray industrial nozzles now includes units made of polyvinyl chloride as well as brass, mild steel, and stainless steel. PVC nozzles provide excellent resistance to acids, alkalies, salt solutions, and alcohols. Operating pressures are high in temperatures up to 180° F. Nozzles are furnished in 1/8, 1/4, 3/8, 1/2, and 3/4-in. male pipe thread sizes. • **Delavan Mfg. Co.**, 811 Fourth St., West Des Moines, Iowa.

▲ For more details circle NED-8 B on enclosed inquiry slip ▲

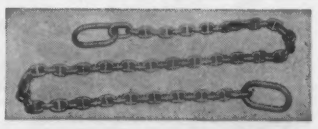
GROOVED WHEEL CASTERS
run on inverted angle iron track



Matching swivel and rigid types of cast semisteel V - grooved wheel casters have 750-lb capacities and 6 x 2-in. wheels. They operate on inverted angle iron track serving production lines, ovens, and retorts. They can also be used on uneven, pitted, or debris-cluttered floors. Swivel type has two separate ball bearing raceways for even load distribution, plus a Zerk lubrication fitting. Wheels have either pressure lubricated roller bearings or lifetime lubricated ball bearings. • **Nutting Truck & Caster Co.**, 1201 W. Division St., Faribault, Minn.

▲ For more details circle NED-9 B on enclosed inquiry slip ▲

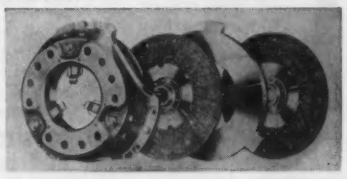
BUNDLING CHAIN
for slab and billet operations



Made of low carbon steel, heavy-duty Armored Chain for bundling in slab and billet operations is nonkinking and will not crush. It has the same working load limit as high carbon, high test chain and is unaffected by high temperature. Continuous lengths or assemblies with master links at each end are available. • **American Chain & Cable Co.**, American Chain Div., York, Pa.

▲ For more details circle NED-10 B on enclosed inquiry slip ▲

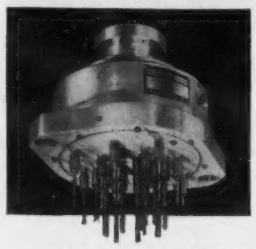
HEAVY DUTY CLUTCHES
in 200 to 1400 lb-ft torque ratings



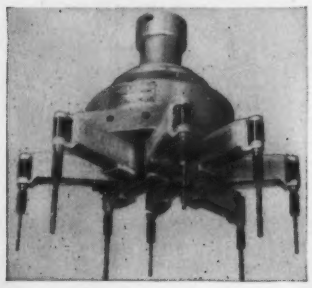
Expanded DPB clutch line now includes a range of direct pressure, heavy duty clutches for truck, tractor, bus, and industrial use. New models include 12, 13, 14, and 15-in. sizes in either single or two-plate construction. Torque capacities range from 200 to 1400 lb-ft. Needle-bearing, friction-free internal lever linkage system gives the series a high mechanical efficiency. Clutches are available as original equipment, or for interchange sales. • **Lipe-Rollway Corp.**, Clutch Div., 806 Emerson Ave., Syracuse 1, N. Y.

▲ For more details circle NED-11 B on enclosed inquiry slip ▲

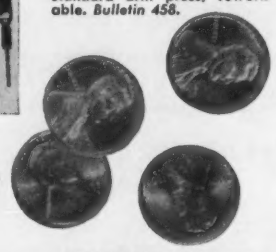
MEET COMPETITION
HEAD ON
with Zagar Drilling, Tapping and Reaming Equipment



With Zagar FIXED CENTER Drill Heads you can drill up to 1500 holes per pass. Also, they can be designed so as to give flexibility and changeability. *Engineering Sheets 66 to 68-A.*



Zagar ADJUSTABLE SPINDLE HEAD eliminates gear clusters, universal joints and flexible shafts. Unlimited inner hole patterns with bolt circles up to 23" diameter. Adaptable to any standard drill press; reworkable. *Bulletin 458.*



Just pennies per part

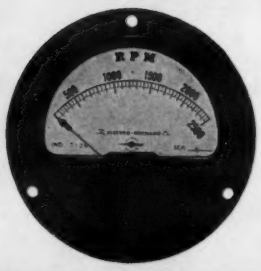
23880 LAKELAND BLVD.
CLEVELAND 23, OHIO
Zagar INCORPORATED
TOOLS FOR INDUSTRY and SPECIAL MACHINERY

▲ For more details circle NED-12 B on enclosed inquiry slip ▲

MOUNTED TACHOMETERS

NO WEARING PARTS

Indicator can be located up to 300' from sender



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PAPER MACHINERY
MACHINE TOOLS
OIL WELL EQUIPMENT
LABORATORIES, ETC.

The ELECTRO-MECHANO CO.
261-1 E. Erie St. Milwaukee 2, Wis.

▲ For more details circle NED-13 B on enclosed inquiry slip ▲

save

. . . with WELD-REEL and REEL-KING automatic hose and cable reels

. . . SAVE TIME — time that's lost uncoiling or untangling hose and cable.

. . . SAVE WEAR AND DAMAGE — hose and cable not in use is protected from wear, falling objects etc. Minimum surface exposed at any time.

. . . SAVE ACCIDENTS — keeping hose and cable off the floor practically eliminates tripping accidents.

Available in sizes and capacities to meet a wide range of industrial requirements.

WELD-REEL REEL-KING

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UNITED SPECIALTIES, INC.
Please send catalog application brochure
NAME _____
COMPANY _____
STREET _____
CITY _____ STATE _____
Write for brochure

▲ For more details circle NED-14 B on enclosed inquiry slip ▲

WIPING CLOTHS
are washable nonwoven type

Moisture and water-absorbent 903 Wash 'n Wipe cloth remains soft and pliable, even after repeated use in washing or wiping glass, metal, plastic, tile, or ceramic surfaces. Made of nonwoven cotton and rayon fibers, the 18 x 24-in. cloth is lint-free and will not crack, dry out, or shrink. It can be used with soaps, detergents, washing powders, and common cleaning agents in hot or cold water, and can be hand or machine washed and sterilized.
• Permacel, New Brunswick, N. J.

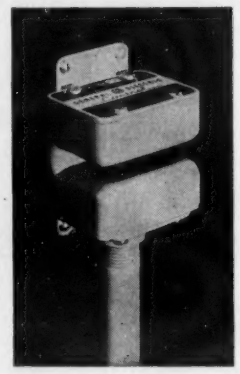
▲ For more details circle NED-15 B on enclosed inquiry slip ▲

PRESS-IN INSERTS & STUDS
used in plastic, wood, soft metal

Push-Lock inserts and studs pushed into molded or drilled holes in plastic, wood, or soft metal lock on one operation. Straight knurling prevents rotation, whereas section at the base spreads out to prevent pull-out. Standard sizes range from 2-56 through 10-32. Inserts are brass and aluminum and studs are brass only.
• Fastener Products, Inc., 349 Connecticut Ave., Norwalk, Conn.

▲ For more details circle NED-16 B on enclosed inquiry slip ▲

VANE OPERATED SWITCH
for controlling machinery travel



One-third smaller in size than the previous model, this vane-operated limit switch for controlling machinery travel can be front or top operated. Normally open or normally closed types have single-pole contacts, and are offered with or without indicating lights. Encapsulation of internal components in a metal enclosure protects them from fluid and dirt. The magnetic device is energized by the passage of a metal vane through a recessed slot in the switch. Operation is consistent within ±0.0025 in. and response time is 0.001 sec. Normal contact rating is 115 v ac, 0.2 amp, make or break. Switch meets JIC requirements and operates at any angle.
• General Electric Co., 1 River Rd., Schenectady 5, N. Y.

▲ For more details circle NED-17 B on enclosed inquiry slip ▲

UNUSUAL BARGAINS

INDUSTRIAL ERECT IMAGE LOW POWER MICROSCOPE
5X, 10X, 20X—$80.00 Value—Only $19.95

Extremely sturdy with rack and pinion focusing, color corrected optics, turntable microscope body for inclined viewing, three different powers, long working distance under objectives, sufficient eye relief for easy viewing. Made from war surplus optical instrument so that you actually get $80.00 of value. Weighs 4 lbs., 13" high. 10-DAY FREE TRIAL! Accessory objectives available for powers of 15X, 30X, 40X.

Stock No. 70,172-AE .....$19.95 ppd.
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NEW! CIRCULAR SLIDE RULE:
Pocket Size—Fast—Easy to Use!

Be a Math Whiz! New Circular Slide Rule multiplies, divides, figures fractions, percentages, squares, cubes, roots, proportions, circumferences, areas, retail prices, fuel consumption. Eliminates the confusions of ordinary slide-rules. Priced far lower. Faster, easier to learn and use. Constructed of 2 aluminum discs with plastic indicator. 3½" diameter. Directions included.
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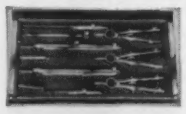

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Regular Price $18.00, Our Price Only $8.00 Ppd. American manufacturer couldn't compete with foreign imports—thus you get a terrific bargain, even far below import prices. 10 handsome pieces in velvet-lined case. Nickel plated brass — precision American-made. We guarantee you'll be satisfied or money refunded.
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EDMUND SCIENTIFIC CO., Barrington, N. J.

▲ For more details circle NED-18 B on enclosed inquiry slip ▲

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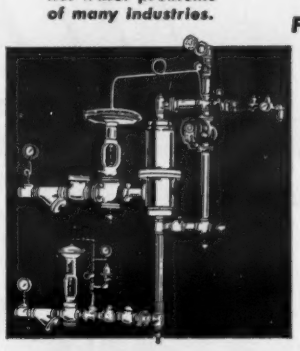
Steam Injection INSTANTANEOUS
HOT WATER HEATERS

Shows how Pick Hot Water Heaters quickly and effectively solve hot water problems of many industries.

MOST ACCURATE, FASTEST, SAVES FUEL



8 SIZES — 500 to 50,000 GALS. PER HOUR

Easily installed in steam and water lines. Usually attached to wall . . . no floor space required . . . no storage tanks necessary.

Volume adjustable from 5% to full rated capacity. Water temperature accurately controlled at any setting, with 20-second reaction to desired up-and-down changes. Operates on high or low-pressure steam.

Write today to Dept. P

PICK MANUFACTURING CO., West Bend, Wis.

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BEARING UNITS
with Malleable Housings
now available in RELUBE TYPE

When you need a relube type bearing unit, you can get more compact design and lighter weight by specifying Browning. Reason: these new pillow blocks, flange blocks and take-up units have housings of stronger *unbreakable malleable.* They feature self-aligning ball bearings secured to the shaft by two set screws in the wide inner ring. All have elongated bolt holes for maximum adjustment. In 29 shaft sizes, ½ to 2⅞". Ask Browning distributor for new Catalog BU-103, or write Browning Manufacturing Company, Maysville, Kentucky.

Browning POWER TRANSMISSION EQUIPMENT

▲ For more details circle NED-20 B on enclosed inquiry slip ▲

SAFE!

CLEAN AUTOMOTIVE & INDUSTRIAL PARTS
3 WAYS!
1. Continuous Flow Hose
2. Air Agitated Soaking Tank
3. "Super Power" Jet Air Gun
A must in every service shop!

Kleerflo SUPER CLEANMASTER MODEL 50

Model 30 (less Jet Air Gun) also available

The safe and sane way to clean parts! Suggested Cleaning Compounds: Kleerflo Hi-T Degreasol—Fast drying leaves no film or Kleerflo Hi-T M467—Penetrating—leaves film that prevents rust.

WASH AN ENTIRE ENGINE BLOCK OR 300 LBS. OF PARTS . . .
FAST!

Kleerflo POWERMASTER DEGREASER

AUTOMATIC
HOT TANK
POWER AGITATED

REDUCE OPERATING COSTS!
Write for Literature, Dept. G-2

America's Foremost Producer of Parts Cleaning Equipment
PRACTICAL MFG. CO.
2840 4TH AVE. S. • MINNEAPOLIS, MINN.

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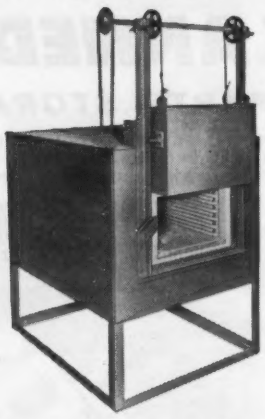
HARDENING • ANNEALING • DRAWING • PREHEATING FURNACES



Originally designed to meet U. S. Air Force specifications (ninety-four furnaces have been delivered to date), the Lucifer 5055 Series furnaces are used for hardening, annealing, drawing and preheating applications . . . 2,000° F. and 2,300° F. This series is available in five standard models built for heavy use. All standard models include . . . an automatic controller, thermocouple, lead wire and magnetic contactor, vertical lift door, cast hearth plate, low watt density metallic elements mounted in our exclusive one piece monolithic holders, welded heavy steel plate reinforced casing, highest quality insulation brick throughout.

For further information, a complete catalog or engineering advice . . . write, wire or call . . .

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★ Vibratory Feed for Even Flow
★ Adjustable Belt Speeds, Rate of Feed
★ Variable Center Drop Turns Work Over

Ideal for small parts and moldings, GOODMAN INSPECTION TABLES pay for themselves in months! Users report two girls now doing work of eight! Faster, smoother inspection, better quality control, less inspector fatigue. Smaller-sized and luminous belt models, too!

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Single-Point pH Recorder (Strip Chart Assemblies also available)

CAMBRIDGE pH INDICATORS and RECORDERS

Labor saving—profit producing!

In addition to portable pH meters, Cambridge makes line-operated Direct Reading pH Indicators and Recorders for permanent installation. They are accurate, stable and assure continuous and trouble-free performance. Either the Recorder, Indicator or both, may be located at any reasonable distance from one or several sampling points. The Glass Electrodes are placed in vapor-tight housings of clog-free sampling chambers.

Send for Bulletin.

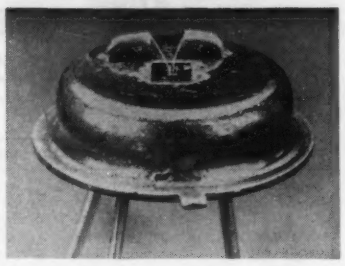
CAMBRIDGE pH EQUIPMENT

CAMBRIDGE INSTRUMENT CO., INC.
3561 Grand Central Terminal, New York 17

PIONEER MANUFACTURERS OF PRECISION INSTRUMENTS

▲ For more details circle NED-24 B on enclosed inquiry slip ▲

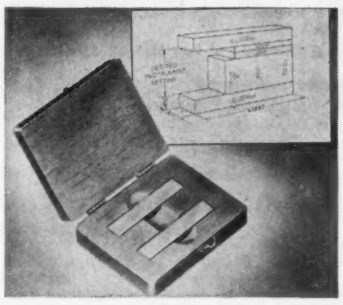
SILICON MESA TRANSISTORS used as high speed switching units



First to be introduced in a new family of silicon transistors, diffused junction, drift field mesa transistors 2N696 and 2N697 are designed for use as high speed switching units and as very high frequency amplifiers. Units are capable of useful current gains at 40 megacycles. Both are basically control devices for small to large signal switching amplification. Pulse current gain measures 40 minimum and 120 maximum in the 2N697 compared to 20 and 60 in the 2N696. Total power dissipation is 2 w at 25° C case temperature. Price is $19 in quantities from 100 to 999. • **Hoffman Electronics Corp.**, Semiconductor Center, 1001 Arden Dr., El Monte, Calif.

▲ For more details circle NED-25 B on enclosed inquiry slip ▲

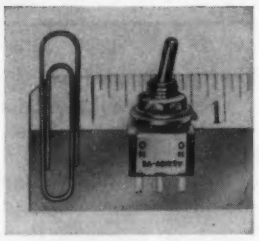
GAGING PARALLELS used without clamps or holders



Made of long-wearing carbide, Master gaging parallels for setting internal measuring instruments have a precision gaging surface flat to within 0.000003 in. They are offered in pairs in a slotted wood case. Parallels are used by wringing them onto the assembled gage block combination. No clamps or holders are needed. • **Dearborn Gage Co.**, Ellstrom Standards Div., 22038 Beech St., Dearborn, Mich.

▲ For more details circle NED-26 B on enclosed inquiry slip ▲

TOGGLE SWITCH is 5-amp subminiature unit



Measuring only ½ x ⅜ x ¼ in., this imported subminiature toggle switch is conservatively rated 5 amp at 115 v ac and will handle up to 100 per cent overload. Switch is rated for over 100,000 operations, has contact resistance of 30 microhms with voltage breakdown at 1000 v ac. Single-pole double-throw and double-pole double-throw units sell for $1.65 and $2.15, respectively. • **Alco Electronic Products, Inc.**, 3 Wolcott Ave., Lawrence, Mass.

▲ For more details circle NED-27 B on enclosed inquiry slip ▲

The Corners On These

MILL BOXES

SAVE TROUBLE ON-THE-JOB

BAL'S bulge type reinforcements make better stacking

Greater stability, full or empty, is a direct benefit of Bal's unique Bulge Corner for stacking type mill boxes. The thick steel does double duty by adding strength.

You get other benefits, too, from Bal's construction: lightweight, hard vulcanized Aerofibre; strong riveting throughout; and rust-protected reinforcements where they're needed. Results? . . . long-time satisfaction.

Bal also builds factory trucks, tote boxes, and similar materials handling specialties.

Write for complete catalog

SINCE 1898 william BAL corporation 947-49 Newark Ave. Elizabeth, N. J.

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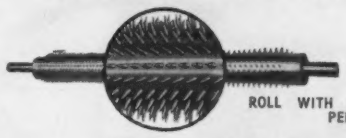
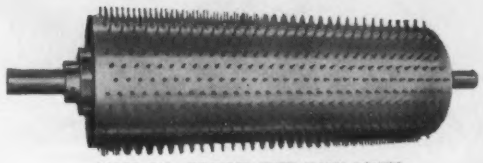
PINNED CYLINDERS - TUBES ROLLS - SHAFTS

For—CRUSHING, PICKING, PERFORATING PRICKING, CONVEYING, TEARING, MIXING AND MANY OTHER APPLICATIONS

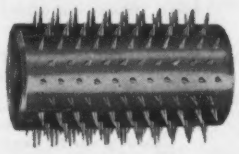


ROLL WITH SHARP POINTS FOR PERFORATING



LARGE DIA. CYLINDER WITH MANY POINTS FOR SCRATCHING, TEARING, ETC.

TUBE WITH MANY SHARP POINTS MADE TO SLIP OVER SHAFTING. USED TO PERFORATE, SHRED, TEAR, ETC.



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Our Products are Made to Suit Your Exact Requirements—Contact Us Today

ROBERT A. MAIN & SONS, INC.
501 W. MAIN ST. WYCKOFF, N. J.

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NEW DESIGN- LONGER LIFE- LESS MAINTENANCE

New, Improved IDEAL

ALL-SERVICE CLEANER

• Air-engineered to deliver the "max" in performance and long gruelling service. New brush assembly and greater brush length increases brush life by 100%. Special pigtail terminal prevents damage to commutator even when maintenance is neglected.

Improved mounting doubles bearing life and eliminates wear on bearing seats. Bearing load is spread over an increased area to reduce wear and equalize the load. Air movement over coils and armature windings has been stepped up approximately 50% so that motor runs cool at all times.

The result: The best cleaner in its class, in performance and economy. Shown is the Heavy Duty Model, with Blower Nozzle. Complete sets of attachments for any job . . . vacuum cleaning, scrap collecting, spraying paints, oil and other liquids, even drying.*

** Light Duty Model only*

3 MODELS for All Jobs
- Super powered 1-1/3 H.P. Model for heavy duty use
- 2/3 H.P. Model for medium duty needs
- 2/5 H.P. Model for lighter duty work

IDEAL INDUSTRIES, INC.
Sycamore, Illinois

IDEAL INDUSTRIES, Inc., 1032-B Park Avenue
Sycamore, Illinois

Please send me full catalog data on IDEAL Hand-Type Cleaner-Blowers.

Name_____
Company_____
Address_____
City_____ Zone_____ State_____

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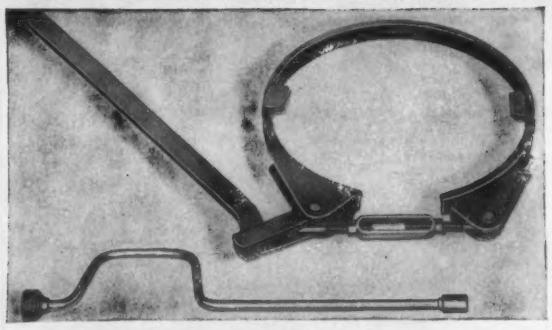
DRUM PARTS CLOSING TOOL
Speeds Open Head Drum Closures



A simple, quick-acting closing tool, so efficient, so easy-to-use it will speed closure of all types of open head drums—especially the outstanding locking rings developed by Drum Parts, Inc. These include:

PLAIN LUG RINGS • OVERLAPPING RINGS
WELD NUT RINGS

Complete Catalog illustrates and gives full details for closing tools, rings and accessories to fit all drum closing needs. Send for your copy today.

DRUM PARTS, INC.
10311 Meech Ave. Cleveland 5, Ohio

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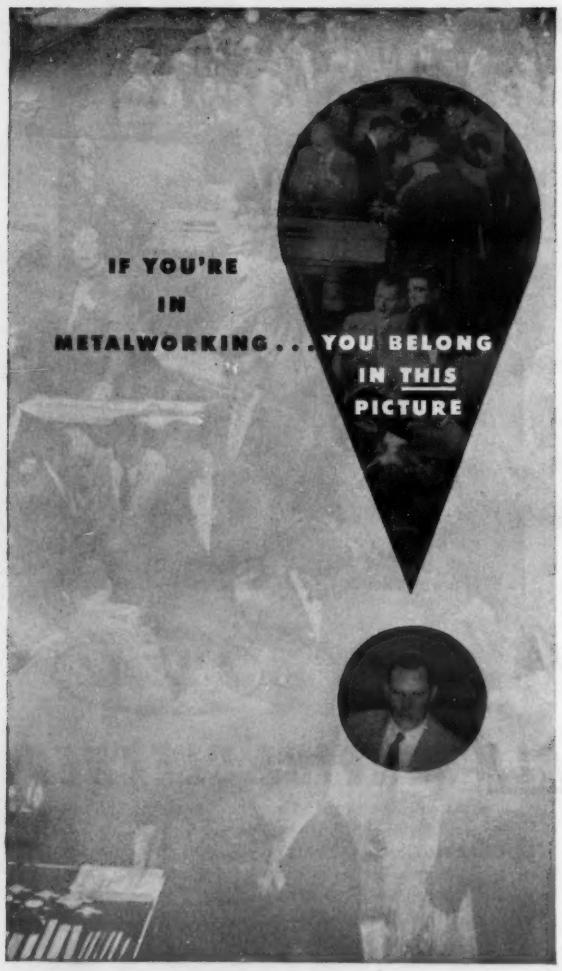

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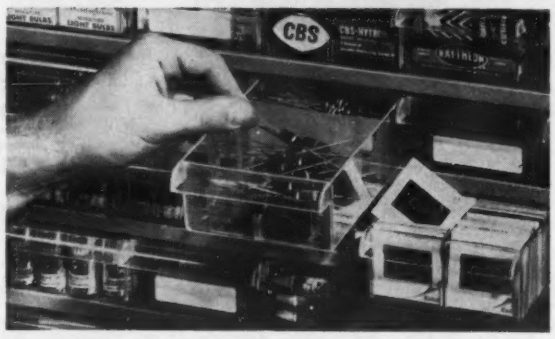
SMALL PARTS STORAGE!

Conserve valuable space, reduce costly "looking" time with Akro-Mils Small Parts Storage Cabinets. 102 Stock models available, others can be built to your specifications.



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your production will flow with greater speed and smoothness

KEWANEE'S unload any size truck or trailer in one to two minutes. They're made in 4 sizes, scale or nonscale types. The load can be weighed in—dumped a moment later and vehicle reweighed with accuracy. Gives you better control of incoming materials.

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Periodic Inspection Service is available to Kewanee users wherever located. Your Dumper is never an orphan after you buy it.

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Do You Use Bronze Powder Finishes?

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---COST LESS (more mileage)
----NEVER Tarnish
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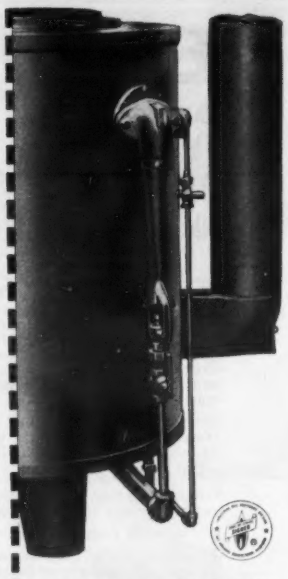
HOW MUCH IS half a furnace WORTH?



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using only low pressure gas give you Full-Value, Fully "Packaged" Venturi Units for every metal working service.

NO BLOWER NEEDED
NO ELECTRICAL POWER
JUST CONNECT TO GAS SUPPLY

Why buy half a furnace? When you uncrate an ordinary unit, you get something like a car without the engine. You need in addition: 1. a costly blower, tools, electrical and other installation contractors, plus maintenance; 2. electrical power, wiring, transformers, surge controls; 3. shop noise suppressors and special remote locations; 4. extra safety precautions due to complex heating systems.

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COMPLETE LINE OF "BUZZER" BURNERS FOR CLEANING, RINSING, PICKLING AND OTHER HEAT APPLICATIONS

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BAldwin 3-1110 — Established 1911
157 SOUTH GRAND AVENUE, BALDWIN, L. I., N. Y.
"BUZZER" Burners & Furnaces for Heat Treating, Melting, Soldering

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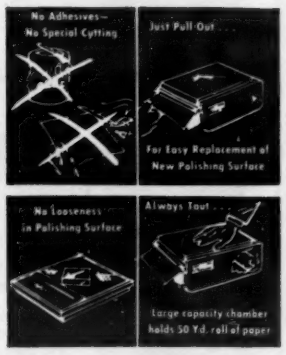
4 reasons why the LAPMASTER portable polishing stand *Simplifies Polishing*



Makes polishing much easier because it holds polishing paper taut and wrinkle-free . . . *always.* Provides replacement of worn paper with new section . . . *immediately.* Steel stage has been lapped to precision flatness to assure a perfect polishing surface . . . *forever.*

The Lapmaster Polishing Stand is ideally suited for polishing work pieces prior to inspection . . . in the experimental mechanical laboratory . . . and for small run polishing jobs.

Get further facts and details . . . Write for copy of Bulletin L-410.

Lapmaster THE MACHINE THAT PUT PRECISION LAPPING ON A PRODUCTION BASIS

A PRODUCT OF
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NEW PORTABLE HYDROCARBON DETECTOR

detects and measures hydrocarbon traces in gases and atmospheres

The new Perkin-Elmer® Model 213 Hydrocarbon Detector detects and accurately measures—in less than 10 seconds — fractions of parts per million of such organic compounds as hydrocarbons, aldehydes, ketones, amines in gases and atmospheres.

Sensitivity range is adjustable from as low as 0-1 ppm full scale to 10% full scale!

Easy as a suitcase to carry — weighs only 47 lbs.

Easy to use — non-technical personnel master it quickly.

HUNDREDS OF APPLICATIONS EVERYWHERE!

- air-pollution studies — industrial areas, plants, tunnels, garages, highways
- measuring hydrocarbon contamination in LOX, other missile and aviation gases
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- yours?

For complete details write for the new 8-page brochure.

INSTRUMENT DIVISION
Perkin-Elmer *Corporation*
NORWALK, CONNECTICUT

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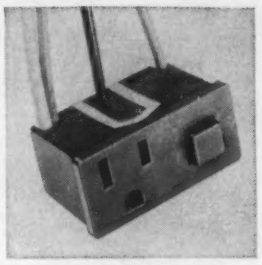
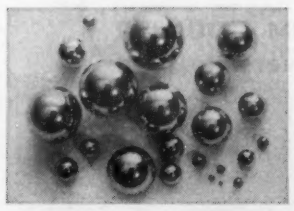
GROUNDED OUTLET incorporates pushbutton switch



Maintained action, push-on push-off switch rated 3 amp is built into this grounded outlet for appliance, cabinet, and other applications. A clip permits rapid snap-in panel mounting for flush installations. Low cost unit is available in black Bakelite, with colors offered on special order. Outlet is rated 15 amp, 115 v ac. • **Molex Products Co.,** 9515 Southview Ave., Brookfield, Ill.

▲ For more details circle **NED-41 B** on enclosed inquiry slip ▲

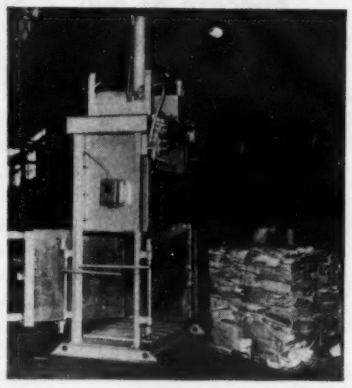
TUNGSTEN CARBIDE BALLS 32 standard sizes through 1 in.



Valve elements handling abrasive materials, indicator points, and bearings for temperatures to 800° F are applications for stocked precision tungsten carbide balls. They are AFBMA Grade 25 and have sphericity of 0.000025 in., ±0.0001-in. basic size tolerance, and 0.000050-in. uniformity per container. Hardness is 89-91 Rockwell A. Balls are offered in 32 standard sizes: 1/64 to 5/32 in. by 1/64-in. increments; 3/16 to ½ in. by 1/32-in. increments; 9/16 to 1 in. by 1/16-in. increments; and 1, 5, and 10 mm. Surface finish is 1 microinch. • **Industrial Tectonics, Inc.,** 3686 Jackson Rd., Ann Arbor, Mich.

▲ For more details circle **NED-42 B** on enclosed inquiry slip ▲

PORTABLE BALER produces paper bales up to 400 lb



Hydraulically operated and controlled Model 200 Hy Cal portable wastepaper baler has a 24 x 36 x 36-in. box size. Depending upon the type of material processed, it produces bales up to 400 lb. With both doors open to maximum width, it requires an installation area of 6 x 10 x 6½ ft. Equipment is powered by a 5-hp, 220/440-v motor, and is merely connected to an electric line for setting up anywhere. It can be loaded from either side. • **Apex Steel Corp.,** Dept. H, 6920 E. Slauson Ave., Los Angeles 22, Calif.

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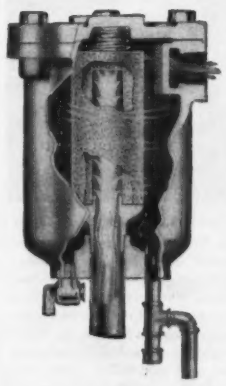
ADAMS PORO-STONE AIR FILTER,

designed to remove oil, water and foreign matter from compressed air lines with minimum pressure drop.



The R. P. Adams Poro-Stone air filter is engineered to efficiently remove entrained oil, water and pipe scale from compressed air lines. Liquid droplets and solids being carried by the gas stream are first removed by centrifugal action in an annular chamber. Secondary filtration is achieved by passing the air or gas stream through a poro-stone unit. An automatic trap can be provided to discharge the residue from the cyclone chamber.

At rated capacity the filters operate at a maximum pressure drop of only ½ lb., thus insuring delivery of line pressure to the point of consumption.

The units require virtually no service or maintenance—thereby insuring continued trouble-free, low cost performance.

ADAMS Poro-Stone air filters are available from stock in sizes to suit your needs. For further information, write today for Bulletin 117, R. P. Adams Co., Inc., 227 East Park Drive, Buffalo 17, New York. *Advt.*

▲ For more details circle **NED-44 B** on enclosed inquiry slip ▲

Complete, year-round grounds maintenance costs can be cut to the very bone with Gravely!

The precise control, amazing ease of operation and riding comfort of the Steering Sulky with 75"-cut Gang Mowers make large-area mowing quick and easy. Now, a new multi-purpose Power Spreader also available.

Gravely offers 30 performance-proved Tools to do every maintenance job—Faster! Better! Easier! All-gear Drive, Power Reverse, Precision Steering, Push-Button Starter.

GRAVELY offers FREE "How to Cut Costs of Grounds Maintenance" Booklet. And a FREE Demonstration. Write Today!

GRAVELY TRACTORS, INC.
P.O. BOX 668-B DUNBAR, W. VA.

PERFORMANCE-PROVED SINCE 1922

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FOXBORO PNEUMATIC TRANSMITTING TACHOMETER

Mounts in any position— Never needs lubrication— No explosion hazards

This unique speed transmitter converts rpm directly to a proportional 3-15 psi air signal, and transmits it to any standard recorder or controller. Speed is recorded on uniform scale chart, providing accurate, easy-to-read measurements throughout the entire range. Full scale accuracy of ±½%. Available for any range. Write for complete details. The Foxboro Company, 662 Neponset Ave., Foxboro, Mass.

FOXBORO INSTRUMENTATION
REG. U.S. PAT. OFF.

▲ For more details circle **NED-46 B** on enclosed inquiry slip ▲

NEW! For Oil Field Use

Color Coded

CM *Hi-Pressure*

HANDLEBAR UNIONS

with 3-pitch standard Acme thread

Fast acting! Rapid make and break! Color coded for quick identification! Clayton Mark's new "Hi-Pressure" Handlebar Union offers **dual** seal of rubber-to-metal and metal-to-metal for high 6000 psi CWP rating. Also available with metal-to-metal seal for 4000 psi CWP rating.

CLAYTON MARK & CO.
1910 Dempster Street • Evanston, Ill.

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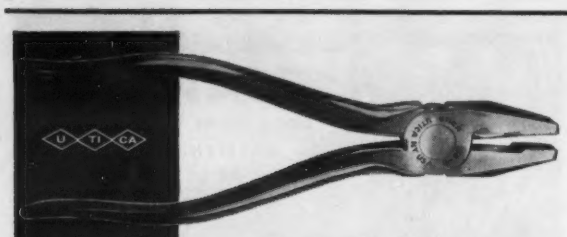

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Our specialty is pliers! Keeping pace with the changing demands of industry, Utica produces and stocks over 1,000 different types of pliers—fine precision tools for every conceivable use. Because of the job we have been able to do in many of the country's largest and most specialized plants, we believe that Utica tools can help you, too—either reduce your costs or improve your products. Contact your Utica distributor, today.

Utica Drop Forge & Tool Division, Kelsey-Hayes Company, Utica 4, N. Y.

tools the experts use!

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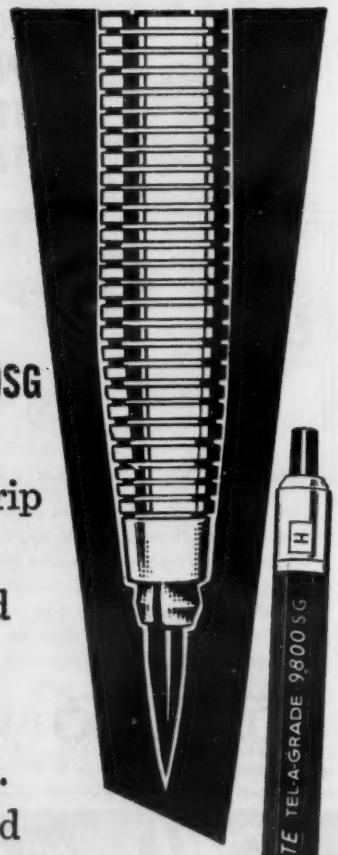


CASTELL LOCKTITE 9800SG

no-slip functional grip lead holder gives blessed relief and comfort to tired fingers. Long, tapered finger grip and perfect balance make drawing, designing and drafting a joy.

Equipped with convenient TEL-A-GRADE device reveals degrees at a glance.

FULLY GUARANTEED!
If it ever happens, that any part of a LOCKTITE Holder breaks in normal usage, the entire holder will be replaced free of charge.

#9030 Imported CASTELL Black Gold Refill Leads fit any standard holder. Perfectly mated with LOCKTITE. Sold by all good Dealers.

A.W.Faber-Castell Pencil Co. Newark 3, N. J.

A.W. FABER CASTELL DRAWING

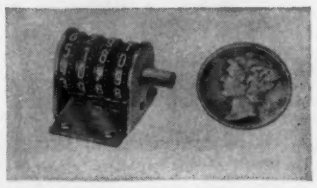
▲ For more details circle NED-51 B on enclosed inquiry slip ▲

DIAPHRAGM VALVE
handles coarse abrasives, pellets

Peristaltic type rubber diaphragm discharge valve will handle coarse abrasives, such as catalysts, pellets, and other odd-shaped materials. Movement is confined to diaphragms which alternately open and close by air pressure or vacuum. This action discharges materials in measured quantities with 100 per cent air-tight seal. Should either diaphragm rupture, the other can extend to the opposite side of the valve for complete, fail-safe closure. • **U. S. Hoffman Machinery Corp.**, Air Appliance Div., Dept. EJM, 103 Fourth Ave., New York 3, N. Y.

▲ For more details circle NED-52 B on enclosed inquiry slip ▲

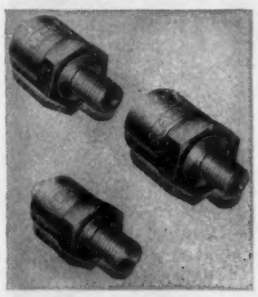
SUBMINIATURE DRUM COUNTER
is four digit, reversible type



First in a series of subminiature counters is Model 3523, a four digit, reversible unit with 0.460-in. diameter drums and 1/8-in. high numbers. Pinions and gears are molded of impact resistant thermoplastic. Although furnished with mounting bracket, lugs can be clipped off and two screws used in the base for mounting. Counter measures 1/2 in. wide by 5/8 in. long by 11/16 in. high over-all. List price is $4.80. • **Haydon Instrument Co.**, 165 W. Liberty St., Waterbury 20, Conn.

▲ For more details circle NED-53 B on enclosed inquiry slip ▲

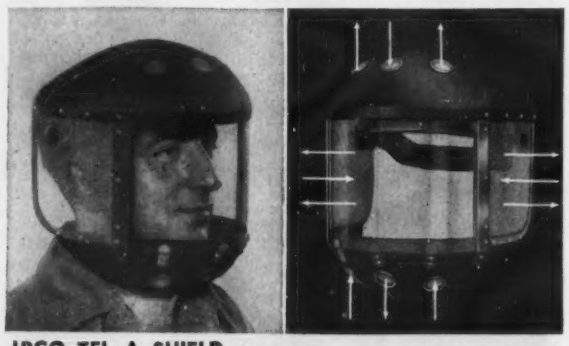
ACCELEROMETERS
operate at 500° F temperatures



Missile and aircraft vibration testing and general industrial measuring are among applications for line of self-generating accelerometers. First resonant frequency of 50 kc widens the frequency range of vibrasion data that can be monitored. Internal capacity of 1600 mmfd reduces effects of cable loss. Stability at up to 500° F permits installing unit close to hot spots. Other features are maximum acceleration of 5000 g, hermetically sealed case, high output, and accurate calibration for reliable repeat measurements. • **Clevite Corp.**, Clevite Electronic Components Div., 3405 Perkins Ave., Cleveland 14, Ohio.

▲ For more details circle NED-54 B on enclosed inquiry slip ▲

FOR SAFETY ON THE JOB . . . FOR SURE



IPCO TEL-A-SHIELD design offers maximum face and head protection from flying metal and glass for workers engaged in chipping, grinding, scaling, metal sawing, spot welding and similar operations. Vulcanized black fibre construction incorporates brass screen ventilating grommets top and bottom. Galvanized wire screen sideshields provide cross ventilation and audibility. Easily replaceable broad vision window is cellulose acetate, extra heavy gauge for impact resistance. IPCO has the *correct* eye, face and head protection for every job requirement. Write for complete catalog.

- BROAD VISION
- MAXIMUM COVERAGE
- LIGHT WEIGHT
- CROSS VENTILATION
- AUDIBILITY

Complete line of masks, hoods, respirators, helmets

Reg. U.S. Pat. Off.

IPCO SAFETY PRODUCTS
INDUSTRIAL PRODUCTS COMPANY
2807 N. Fourth Street • Philadelphia 33, Pennsylvania

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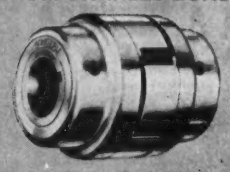
NEW! FROM CHARLES BOND . . .



FOR GREATER ECONOMY
LONGER MACHINE LIFE

BONDTRU® ALUMINUM INSULATED FLEXIBLE COUPLINGS

Here's the ideal coupling for light-duty applications up to 10 H.P. at 1800 R.P.M. Simplified construction of non-corrosive aluminum offers you low initial and maintenance costs plus a weight reduction of up to 60% of comparable iron couplings. No lubrication is required. And because of Bondtru's simplified three-part construction you get the benefits of quick and easy installation as well as reduced downtime for replacement and maintenance.

Bond's self-aligning feature protects motors and machines from wear caused by end-play, lateral and angular misalignment, for longer life.

Other features are:

- Non-conducting insert eliminates static and dynamic electricity and absorbs shock and torsional vibration.
- All-rounded edges promote operator safety.

This great new all-purpose coupling represents another advance stemming from Bond's continuing research for new and better power transmission products.

CHARLES BOND IS YOUR BEST SOURCE FOR A BASIC LINE OF POWER TRANSMISSION COMPONENTS!

SPEED REDUCERS | GEARS | SPROCKETS | CHAINS | FLEXIBLE COUPLINGS | UNIVERSAL JOINTS · COLLARS · PILLOW BLOCKS

Bond CHARLES BOND COMPANY
617-23 ARCH STREET • PHILADELPHIA 6, PENNSYLVANIA

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Seiberling
INDUSTRIAL GLOVES

Longer wear in every pair! Available in various sizes, gauges, lengths, colors and surface finishes. Natural rubber or genuine Dupont neoprene latex. Contoured fingers for more comfort, better fit.

EXCLUSIVE PATENTED
FIRMGRIP®
SAFETY GRIP MOULDED INTO FINGERS AND PALM

SEND FOR CATALOG NO. G-2 of complete glove line

FREE TEST OFFER! Write us on your firm's letterhead for sample gloves for test purposes.

SEIBERLING LATEX PRODUCTS
New Bremen, Ohio

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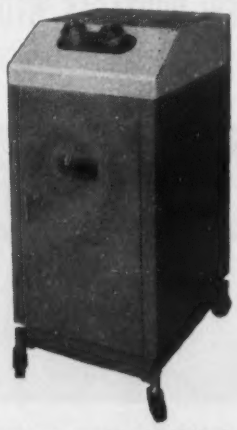
PNEUMATIC

SEMI AUTOMATIC AIR CLEANER



Air cleans new glassware at 20 to 50 per minute speeds • Handles several shapes and bottle sizes without change of parts

PNEUMATIC SCALE CORPORATION, LTD., 94 Newport Avenue, Quincy 71, Mass. *Sales Offices: New York; Chicago; Dallas; Rochester. Agents: Fred Todt Company, Los Angeles, San Francisco and Seattle; Rockwell Pneumatic Scale Ltd., London N. W. 2, England; O. R. M. A. Paris, France. Subsidiaries: Delamere & Williams Co., Ltd., Toronto; Carbert Manufacturing Co., Inc., Cambridge, Mass.*

PNEUMATIC *Packaging and Bottling Equipment*

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HEATS FAST → SAVES TIME

johnson

NO. 142
HEAT TREATING FURNACE

Start heat treating high speed and carbon steels while other furnaces warm up. Powerful burners in this efficient furnace get heat up to 1300°–2350° F. range in minutes. Temperatures accurately and quickly regulated. Ratchet-operated door opens upward — no need to open fully every time. High temperature refractory-lined firebox keeps heat uniform — 7" by 13" by 16½". 200,000 BTU's per hr. Carbofrax hearth, G.E. Motor and Johnson Blower included.

F.O.B. Factory . . . $374.00

JOHNSON GAS APPLIANCE CO.
591 E Avenue N.W.,
Cedar Rapids, Iowa

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NOW WASH WINDOWS HIGH or LOW *FASTER AND SAFER*
with a Tucker Window Washer

TUCKER WINDOW WASHERS *Feature*

- TELESCOPIC HANDLES
- AUTOMATIC, VISIBLE DETERGENT
- COMPRESSED DETERGENT
- SPECIAL WINDOW BRUSHES

Easy to Operate

If your custodian wants to try a Tucker Window Washer, we will ship prepaid with the understanding that the washer may be returned for cancellation if not satisfied.

ONLY TUCKER Window Washers can show you how to save time and money in cleaning your inaccessible windows. Up to now, it was necessary to erect costly scaffolding. With a Tucker window wand, it is a simple time and money-saving task to clean those windows . . . and by standing on terra firma.

Available Through Your Favorite Sanitary Supply Dealer . . . or Write For Full Particulars, Prices and Measuring Instructions to —

TUCKER MANUFACTURING CO.
CEDAR RAPIDS, IOWA

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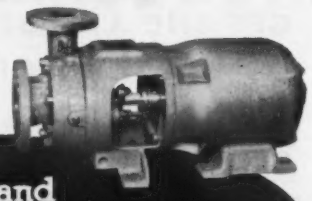
better pump design cuts operating costs



Ingersoll-Rand
MOTOR PUMP

These modern Motorpumps come to you from the world's largest manufacturer of centrifugal pumps. Time-tested features plus Ingersoll-Rand advanced engineering assure low-cost performance, year-after-year savings.

- easy installation
- widest range of types and sizes
- mounting versatility
- low operating costs
- rugged durability

Write for latest bulletins.

Ingersoll-Rand
11 Broadway, New York 4, N. Y.
9-824

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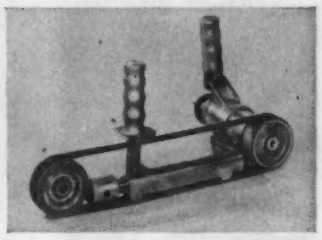
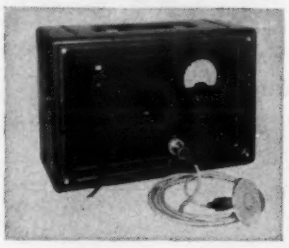
PORTABLE BELT SANDER
air motor drives 1 x 36-in. belt



Suited for operations requiring slack of belt, contact wheel, or platen type finishing, this portable abrasive belt tool can be hand-held or bench mounted. Power to drive the 136-in. abrasive belt at 4500 fpm is supplied by a 1-hp air motor. Belt change and tracking are fast and easy. Tool is designed for heavy stock removal as well as polishing and blending wide range of materials including ferrous and nonferrous metals, plastic, laminates, and wood. • **Nu-Matic Grinders, Inc.**, 875 E. 140th St., Cleveland 10, Ohio.

▲ For more details circle NED-62 B on enclosed inquiry slip ▲

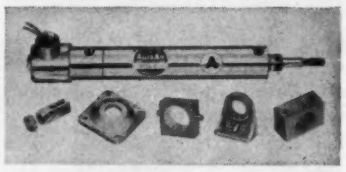
DISTANCE METER
has 50 microinch to ½-in. range



Rapid and direct means for accurate measurement in precision grinding or other processes is afforded by the Type DM-100 distance meter. Readings are accurate to ±2 per cent of full scale deflection. Noncontacting probes measure distances from 50 microinches to ½ in. Distance is read directly from a moving coil meter. Four probes with full scale ranges of 0.001, 0.01, 0.1, and 0.5 in. impose no load on the item being measured. Changes in dimensions are continuously monitored, or recorded against time or temperature. Length of probe cable is 10 ft. Price is $600. • **Wayne Kerr Corp.**, 1633 Race St., Philadelphia 3, Pa.

▲ For more details circle NED-63 B on enclosed inquiry slip ▲

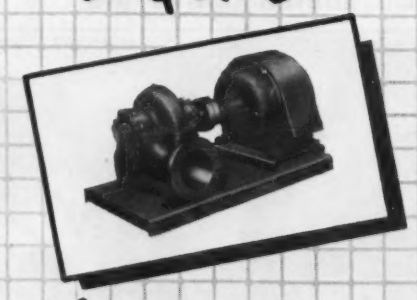
AIR CYLINDERS
with solenoid valve built into head



A three-way solenoid valve built into the rear head is featured in two single-acting air cylinders. Model AVSA is designed for gravity or air return, whereas Model AVSR has an internal spring to return the rod. Barrels and heads are brass, and rods are ground and polished stainless steel. Both models are offered in popular voltages and a choice of four mounts. Stroke lengths up to 80 in. are available. • **Allenair Corp.**, 255 E. Second St., Mineola, N. Y.

▲ For more details circle NED-64 B on enclosed inquiry slip ▲

You specify the LIQUID



and Ingersoll-Rand will specify the PUMP

10-974

From the world's most *complete line* of centrifugal pumps, I-R engineers can select the one that meets your exact requirements to *best advantage*.

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11 Broadway, New York 14, N. Y.

PUMPS • COMPRESSORS • DIESEL ENGINES • AIR & ELECTRIC TOOLS
TURBO BLOWERS • CONDENSERS

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Exclusive
POW-R-GRIP* Ridges!
Anchor anything to concrete...permanently

BULLDOG *Gold Digger*®

*POW-R-GRIP ridges around the shank of the BULLDOG "Gold Digger" drill/anchor permit *faster, easier drilling* into hardest concrete, brick or stone. Once the drill/anchor is set, these powerful ridges, plus the proven expansion principle of "Gold Digger" drill/anchors, assure greatest holding-power under all job and climatic conditions. Only POW-R-GRIP ridges assure "the grip that never fails".

Send for full details today! *Free* specification and application booklet on BULLDOG "Gold Digger" drill/anchors available on request.

BULLDOG DIVISION (Formerly Polis Manufacturing Co.)
GREGORY INDUSTRIES, INC.
102-22 Toledo Avenue • Lorain, Ohio

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NEW NEW NEW NEW NEW NEW NEW NEW NEW

when it MELTS you know the *temperature!*

NEW *Markal* **THERMOMELT** TEMPERATURE INDICATORS

With Handy Adjustable Holder

The easy modern way to determine exact working temperatures!

Just mark or stroke the surface with THERMOMELT . . . when it reaches the desired temperature, the mark liquefies. There's no guesswork, no wasted time or material . . . THERMOMELT is the quick, precise way to determine heating temperatures. Accurate to within ±1%.

A Stik For Every Temperature from 113° F. to 2000° F.

SEND TODAY for free THERMOMELT literature and pellet sample (indicate temperature desired).

ALSO AVAILABLE IN LIQUIDS AND PELLETS for inaccessible or hard-to-measure applications. Wide range of temperatures.

Made by the Manufacturers of Markal Paintstik Markers and Protective Coatings.

MARKAL CO. 3053 West Carroll Avenue • Chicago 12, Illinois

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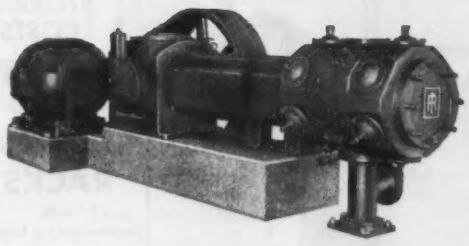
Non-Lubricated compressors

ESH-NL *for OIL-FREE air*



New electric-driven compressors for applications where oil cannot be allowed to contact the air or gas being handled. Special cylinders and valves designed for continuous operation without lubrication, with minimum maintenance. Sizes from 20 to 150 hp. Also vertical units, known as ESV.

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OVER 1000 COMPRESSOR TYPES AND SIZES . . . ½ TO 7500 HP

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YOU NEED A

DUPOR AUTOMATIC

Water-Cooled Respirator

Sponge filter saturated in cool, clear water provides moist air for comfortable breathing. Ideal protection against dust, fumes, smoke, paint spray. Full panorama visibility. Can be worn with goggles or glasses. Work refreshed, order a water-conditioned respirator today! Sample, $2.25 postpaid.

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South Bend 14, Indiana
"Respirators for Industry since 1894"

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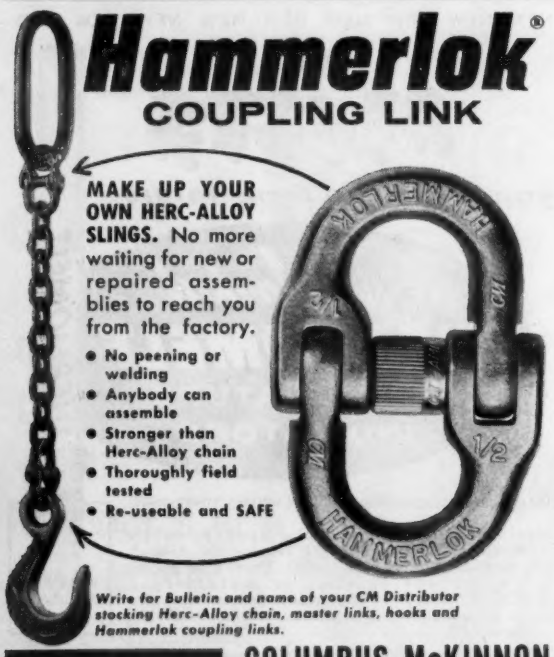
Hammerlok® COUPLING LINK



MAKE UP YOUR OWN HERC-ALLOY SLINGS. No more waiting for new or repaired assemblies to reach you from the factory.

- No peening or welding
- Anybody can assemble
- Stronger than Herc-Alloy chain
- Thoroughly field tested
- Re-useable and SAFE

Write for Bulletin and name of your CM Distributor stocking Herc-Alloy chain, master links, hooks and Hammerlok coupling links.

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NEW YORK • CHICAGO • CLEVELAND
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HERC-ALLOY®

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the new formula for REDUCED STORAGE COSTS!

MET-FAB
DUAL-ANGLE Adjustable
STORAGE RACKS
with positive-locking feature!

- MORE STRENGTH!
- LESS WEIGHT!
- NO PREMIUM!

UP TO 100% GREATER STRENGTH with less weight and more capacity per shelf—for pallet, skid, die, coil, gravity, drum, drive-in, bar or bulk storage! MET-FAB gives you the super-strength of 60 to 70 carbon rail steel in light-weight, dual-angle construction —*the new formula for reduced storage costs*—with many advantages over the mild steel used in most storage racks now on the market!

FAST ASSEMBLY . . . QUICK ADJUSTABILITY

from a "basic standard" to unlimited special applications

Write for descriptive bulletin and complete information. Let Met-Fab help you reduce your storage costs. Qualified field engineers are available to assist you in layout and design.

MET-FAB, inc. *Dealerships Available*
WILLIAMSPORT • PENNA.

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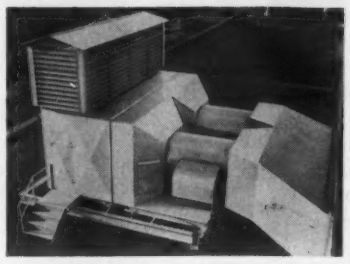
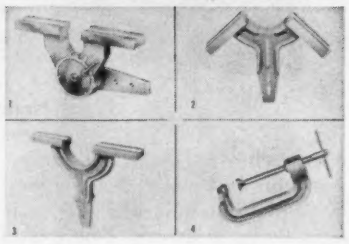
AIR REPLACEMENT HEATER supplies 150,000 cfm of warm air



Air removed from plants by fume, gas, and solid particle exhaust systems is replaced by this packaged gas - fired heater. A four-direction louver tower provides ample intake air regardless of wind velocity or direction. Motor-operated dampers open when the gas burner ignites. Unit functions automatically to supply 150,000 cfm of warm air. A 15-million Btu Maxon gas burner automatically adjusts its flame in relation to temperature changes. Two 40-hp, low velocity axial fans disperse the warm air through over 100 individually adjustable 3 x 5-ft registers. • **Metals Engineering & Mfg. Co.,** 8820 Lyndon, Detroit 38, Mich.

▲ For more details circle NED-72 B on enclosed inquiry slip ▲

WORK HOLDERS & CLAMPS speed welding, soldering, brazing by positioning and holding parts



Especially useful for positioning and holding pipes, rods, tubes, plates, bars, and other structurals for in-shop or on-the-job welding, soldering, brazing, or other operations, line of work holders and clamps includes three types. Adjustable holders have clamping faces that can be set at any angle up to 180 degrees by means of a calibrated dial and a quick-opening quick-locking handle. Right angle type has faces set at 90 degrees, and straight holder has faces aligned for butt joints.

All of the holders can be combined to make practically any pattern of two and three-way joints, or they are usable for jig type setups. The high strength aluminum alloy frames have machined surfaces, are light in weight, and resist weld spatter. Standard and quick-acting clamps in 3, 4, and 6-in. capacities have aluminum alloy frames and copper plated steel parts to resist weld spatter. • **Wales-Strippit, Inc.,** 227 S. Buell Rd., Akron, N. Y.

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Time Delay Relays

Tempo Instrument Inc.—Overlapping time delay ranges, each capable of a 20:1 adjustment range, are offered in the no-moving-parts solid state timing module. Relays have 0.050 to 1 to 15 to 300-sec ranges. As described in 8-page Bulletin 5905, their timing adjustment is made by a change of an external resistance value. Input is 18 to 31 v.

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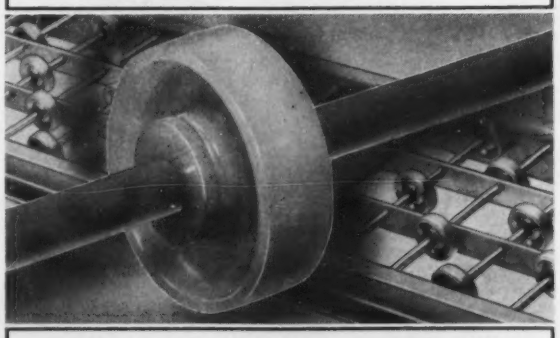
NEW NYLON WHEELS End Corrosion—Kill Noise on Buschman Conveyors



Available for any Buschman wheel conveyor. New Nylon Wheels with cadmium plated axles and *Galva-finish* frames are quiet running, corrosion free. Especially useful under steam and water conditions, such as meat packing, poultry, fishery, other food processing plants. Another plus in Buschman's complete line of wheel, roller and belt units, table-cable conveyors and overhead trolleys. For complete information, write The E. W. Buschman Company, 4482 Clifton Ave., Cincinnati 32, Ohio.

Buschman CONVEYORS
Complete Conveyor Systems for all Types of Industries—Engineered, Manufactured, Installed
Representatives in Principal Cities

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SELF-DRAINING PROTECTION for your air equipment

WILKERSON AQUA-JET

Completely separates and pneumatically discharges from compressed air lines all harmful oil, water, and dirt as small as 5 microns, eliminating manual draining.

- Eliminates costly air loss encountered in manual draining.
- Outmodes the undependable human element for draining.
- Transparent or metal bowls—¼" to 8" P.T.
- Up to 635 CFM with only 0.75—1.65 PSI pressure drop.
- 250 PSI maximum pressure.

WILKERSON CORPORATION
Dedicated to keeping the NEW in pNEUmatics

WRITE TODAY for complete specifications and name of nearest Wilkerson distributor.

1633 West Girard
Englewood, Colo.

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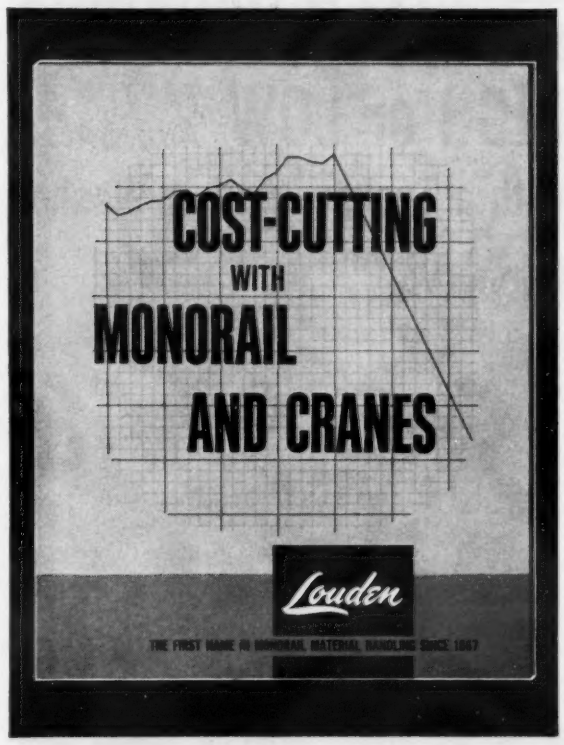

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204 Court, Fairfield, Iowa
A Subsidiary of Mechanical Handling Systems Inc.

Louden

MONORAIL & CRANES

SINCE 1867 . . . THE FIRST NAME IN MATERIALS HANDLING

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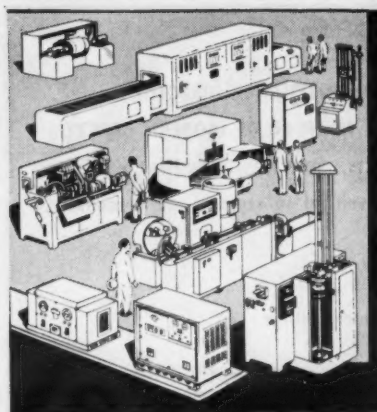

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BRAZING
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ANNEALING
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Manufactures the most complete range of

INDUCTION HEATING EQUIPMENT

ELECTRONIC · LOW FREQUENCY
MOTOR GENERATOR

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181 WYTHE AVE., BROOKLYN 11, N. Y.

• Over 20 years of concentrated experience.
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• Over 15,000 heating applications resolved in our customer service laboratories.
• This outstanding experience and know-how qualify us to prescribe the techniques and equipment best suited for your requirement.
• Write for New 56-page Catalog of exclusive features, facts and specifications.

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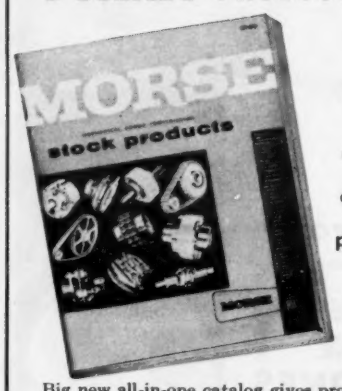

Gives selection and pricing data on all mechanical power transmission products

Big new all-in-one catalog gives properties and features, selection tables, and costs for Morse roller, double pitch, and silent chain . . . flexible couplings . . . torque limiters . . . cam clutches . . . and other Morse power transmission equipment.
Write today for Catalog SP-59 to MORSE CHAIN COMPANY, DEPT. 19-20, ITHACA, N.Y. A Borg-Warner Industry. Export Sales: Borg-Warner International, Chicago 3, Illinois.

MORSE BW
A BORG-WARNER INDUSTRY

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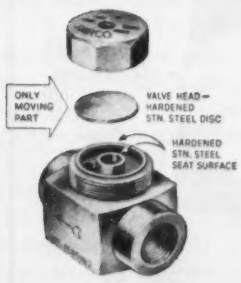
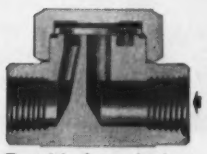
STEAM TRAP MAINTENANCE CUT!



Only 3 parts



Trouble-free design

Simplest design of all virtually eliminates wear

The Sarco TD practically does away with steam trap maintenance.

Only 3 simple, rugged parts . . . all stainless steel. Only *one* moving part . . . a solid hardened stainless steel disc.

Highly resistant to superheat, water-hammer, corrosive condensate.

No mechanism . . . the kinetic energy of steam closes the valve. No narrow channels to choke. No gaskets to leak.

Ask for 60-day trial

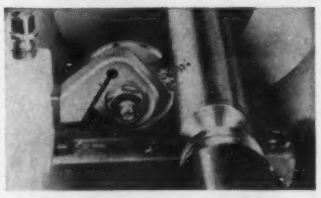
We'll see that you receive a Sarco TD steam trap and strainer for free trial. No cost or obligation. Buy only if completely satisfied. Advise size—3/8, 1/2, 3/4, or 1"—and use. Sarco Co., Inc., 635 Madison Avenue, New York 22, New York.

2212F

SARCO COMPANY, INC.
635 Madison Avenue, New York 22, N. Y.

▲ For more details circle NED-80 B on enclosed inquiry slip ▲

THREAD CUTTING TOOL cuts both sides of thread at once



Thread cutting time is reduced by as much as 40 per cent with this negative profile cutting disk which cuts both sides of an individual thread simultaneously. Angular setting is determined by easily-read, easily-set scale. Cutters are available in either high speed steel or carbide and are easily sharpened without changing original cutting angle. Internal threading tool is available as well as external cutter shown. • **Acme Tool Corp.**, 71 W. Broadway, New York 7, N. Y.

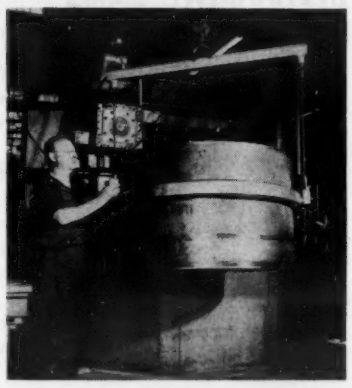
▲ For more details circle NED-81 B on enclosed inquiry slip ▲

PORTABLE AIR COMPRESSOR is oil-free piston-type unit

A nonlubricated piston with Teflon cup backed by a silicone O-ring is featured by this portable, oil-free air compressor for remote operation of air tools or as original equipment. The 18-lb unit is powered by 1/8-hp, 115-v ac induction motor with 8-ft heavy-duty cord and thumb switch. It supplies filtered, high pressure air and is protected by automatic safety bleed-off valve which releases pressure in excess of preselected amount up to 100 psi. • **Winslow Mfg. Corp.**, 3695 E. Tenth Court, Hialeah, Fla.

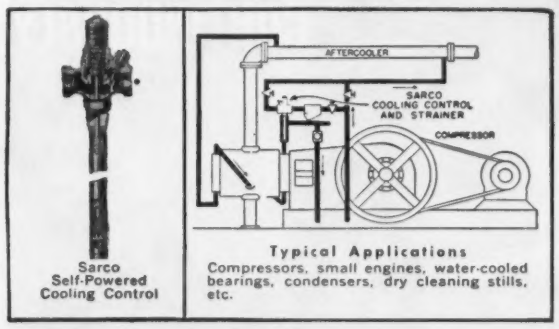
▲ For more details circle NED-82 B on enclosed inquiry slip ▲

AIR-OPERATED GRABS handle huge cylinders safely



Even peripheral pressure exerted against the load enables Pneuma-Grip pneumatically - operated grabs to handle, rotate, and dampen large, delicate cylinders and chambers without damage. Developed to handle missile cylinders and sections, grabs consist of neoprene pneumatic members assembled in annular metal channel retainers. Controlled air pressure introduced into the pneumatic chamber expands the unsupported face of the pneumatic member equally against load to be handled. • **Presray Corp.**, Pawling, N. Y.

▲ For more details circle NED-83 B on enclosed inquiry slip ▲



Sarco Self-Powered Cooling Control

Typical Applications
Compressors, small engines, water-cooled bearings, condensers, dry cleaning stills, etc.

Inexpensive
COOLING CONTROL

1/2" size
Simple, compact automatic thermostatic valve. Eliminates overcooling and undercooling. Saves water . . . and replaces guess-work with certainty.

1. Self-powered . . . requires no compressed air or electricity.
2. Self-contained . . . no exposed mechanism.
3. Packless valve . . . single-seated . . . unaffected by silt or scale-forming minerals.
4. Compact . . . 1/2" size only 3 1/4" side, 15" high.
5. Easy to install by any pipefitter.
6. Thousands provide dependable service for firms such as Ingersoll-Rand, Butler Mfg. Co., Swift & Co.

Write for Bulletin 710 to Sarco Co., Inc. 635 Madison Avenue, New York 1, N. Y.

2198-F

SARCO COMPANY, INC.
635 Madison Avenue, New York 22, N. Y.

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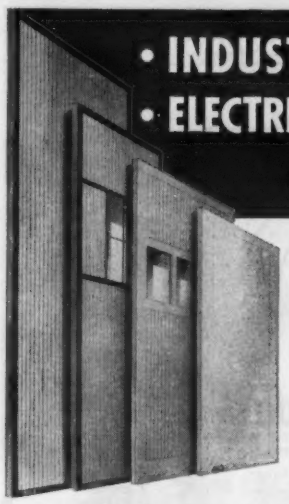

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• ELECTRIC OPERATORS
• HARDWARE

...R-W offers the most complete line available—all are designed for top service and maximum satisfaction!

R-W manufactures a complete line of doors, door hardware, fire doors and hardware and automatic electric operators that are specifically designed to economically meet the rugged demands of industry . . . and to fulfill these demands for years to come. Provides one dependable source for all of the equipment necessary to fill a door opening . . . components are *"made for each other"* to provide a perfect match. For the ultimate in quality, service, dependable operation and over-all economy—*make your industrial door installations 100% R-W Equipment.* Write today for free catalogs.

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NEW...Larger capacity and higher speed models in 1/2, 1 and 2 tons for faster, lower cost materials handling.

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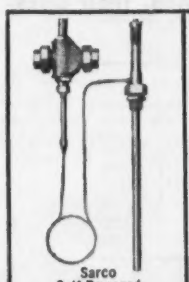
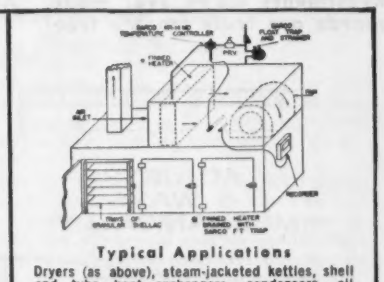


Sarco Self-Powered Temperature Control



Typical Applications
Dryers (as above), steam-jacketed kettles, shell and tube heat exchangers, condensers, oil storage tanks, etc.

End uncertain manual
TEMPERATURE CONTROL
...at low cost!

Here's how to get rid of uncertain, time-wasting manual temperature control . . . throughout your plant.

And without investing in complicated, costly equipment.

These Self-Powered Sarco controls are inexpensive, simple, dependable, accurate. Can be used for all but the few special jobs requiring costly, elaborate equipment.

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Thousands in use by firms such as Colgate-Palmolive, Sinclair Refining, Swift.

Write for Bulletin 620 to Sarco Co., Inc., 635 Madison Ave., New York 22, New York. 2199F

SARCO COMPANY, INC.
635 Madison Avenue, New York 22, N. Y.

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Play it Safe in HAZARDOUS AREAS!

GEMCO EXPLOSION•PROOF ENCLOSURES

Protect hazardous areas in your plant *economically* with Gemco explosion-proof pushbutton stations and enclosures. Lightweight cast aluminum construction, Gemco modular construction permits special pushbutton stations containing 1 to 64 units in one enclosure.

Specials? Gemco *standard* enclosures are available with receptacles, viewing windows, *plus* pushbutton stations and control panels.

Design and construction; NEMA types 7 and 9.

Write today for Bulletin No. 659 on Gemco explosion-proof enclosures

GEMCO ELECTRIC COMPANY
25685 West 8 Mile, Detroit 40, Mich.

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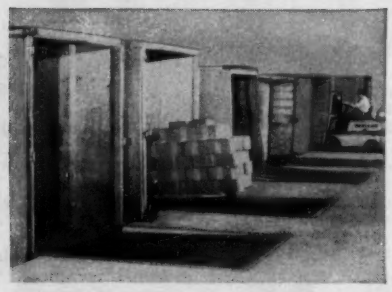
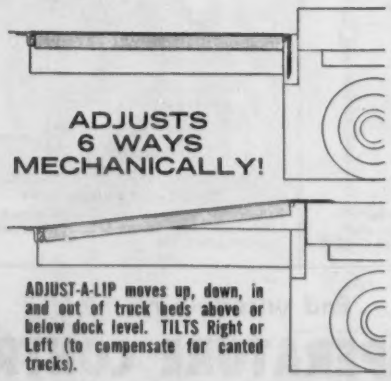
KELLEY DOCKBOARDS CUT COSTS 20% FOR CHEESE CO.



"Down went dock operating costs, up went use of valuable power equipment, when we installed Kelley Hi Lo Dockboards," reports R. G. Bush, Chief Engineer at Schreiber Cheese Co., Green Bay, Wis.

In his letter to a prospective Kelley purchaser Bush exclaimed, **"Kelley Dockboards have more than paid for themselves! Our men look for ways to load trucks with powered equipment today. Previously, the use of loose dock plates made them reluctant to use powered equipment going in and out of trucks because dock plates could easily slip out and cause a serious accident.**

All in all, Kelley Dockboards are one of the best investments we've ever made. And, their Dockboards are truly *trouble free!*"



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KELLEY COMPANY INC.
2153 W. MILL ROAD
MILWAUKEE 9, WISCONSIN

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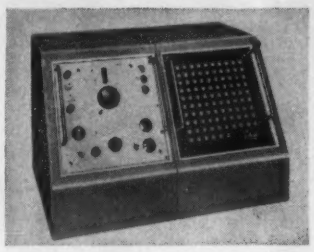
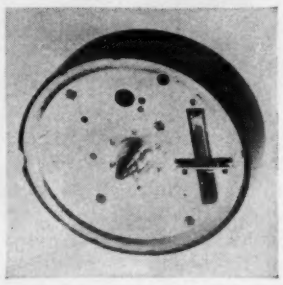
CABLE TESTER checks up to 96 conductors



Made in two separable halves, the portable multiconductor cable tester can be used for testing of in-place cables when both ends are accessible. The bench-top unit will check out a cable of up to 96 conductors for both hi-pot and continuity. Any one of the conductors is selected on a large numbered dial. Test voltages are 500, 1000, and 1500 v dc and minimum insulation resistance settings are 1, 2, 3, 4, and 5 megohms. An automatic readout unit contains a 96-light indicator panel which indicates continuity. Unit also indicates crossed wires. Operation is on 115 v, 60 cycles ac. • **Leemath Inc.**, Oak Drive, Syosset, N. Y.

▲ For more details circle NED-91 B on enclosed inquiry slip ▲

ELECTRIC CLOCK MOVEMENT operates on 115-v 60-cycle ac



Measuring 1-in. deep with 3-in. diameter, Series F-71 clock movement has a 1¼-w motor, threaded second hand shaft, and arbors for minute and hour hands. It attaches to ⅛-in. or thinner panels by threaded center mount. Hand, back, and bottom set types will be offered for 115-v 60-cycle ac only, with or without cord set. • **William L. Gilbert Clock Co.**, Winsted, Conn.

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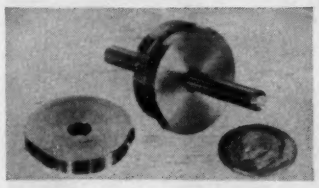
INSTRUMENT CAMS two rise rates save shaft space



Adjustable Type 260 two-cam assembly offers three combinations of rises: Two sharp, two gradual, or one sharp and one gradual. Two identical stainless steel cams make up the 5/16-in. thick assembly which has two different rise rates on each cam. Cams mount directly and independently on a shaft. Each is adjustable from 180 to 360 degrees "high" and 0 to 140 degrees "low." Maximum radius of ½ in. and minimum radius of 7/16 in. permit 1/16-in. differential motion. Assemblies have bores of 0.187 or 0.250 in. • **Gap Instrument Corp.**, 116 E. Merrick Rd., Freeport, L. I., N. Y.

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ALGENE CONTINUOUS CODER

Just set it and let it run — continuous or intermittent, coding on cloth, kraft, corrugated, metal, paper, glass, plastics, cellophane, waxed surfaces — top, bottom or sides. Positive friction drive, long-run ink fountain, adjustable spring tension for clear impressions. Printing area ¾"x12" and up; Interchangeable rubber type or strips for quick changes. Ink for all surfaces supplied.

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ALGENE MARKING EQUIPMENT COMPANY
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Best's SAFETY-MAINTENANCE DIRECTORY combined with the MANUAL OF MODERN SAFETY TECHNIQUES lists, describes, classifies and illustrates all essential safety and maintenance products

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VARIABLE DISPLACEMENT PUMPS for pressures up to 3000 psi, and capacities from 2 to 187 gpm depending on size, input power, and speed. One and two-way flow. Quiet, vibration-free, radial rolling piston design — Oilgear Type "D."

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Request Oilgear Bulletin No. 47001

THE OILGEAR COMPANY
Application-Engineered Fluid Power Systems
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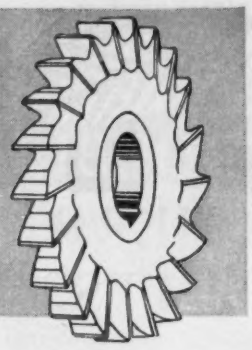
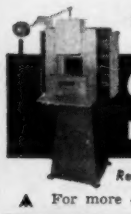
Better Tools From SENTRY Hardening



THE TRUE TEST of your machine tools is their performance on the job — how they benefit your production. This is where Sentry Furnaces with the Diamond Block method of atmosphere control demonstrate their value. Your high speed steel tools hardened in the truly neutral Sentry Diamond Block atmosphere achieve maximum hardness without scale or decarburization, maintain their sharp cutting edges longer, step up production.

Write for literature and send sample of your tools for free demonstration hardening.

505-9



Sentry ELECTRIC FURNACES

Request Catalog A-17 Write THE SENTRY CO., FOXBORO, MASS.

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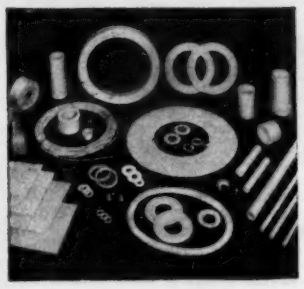
ENGINEERED PLASTICS



You'll benefit from Garlock's years of experience in injection molding, compression molding, extruding, punching, machining, and grinding of stock shapes and intricate parts. "Know-how" like this enables Garlock to recommend and furnish plastic materials exactly as you need them. Garlock offers a wide selection of shapes and parts—regardless of size, tolerance, or quantity—in Teflon* TFE, FEP . . . Nylon . . . Polychlorotrifluoroethylene (C.T.F.E.) . . . Delrin* . . . Polyethylene . . . Polypropylene. **Contact** one of Garlock's 26 sales offices and warehouses throughout the U.S. and Canada, or write for Plastics Catalog AD-171, The Garlock Packing Company, Palmyra, New York.

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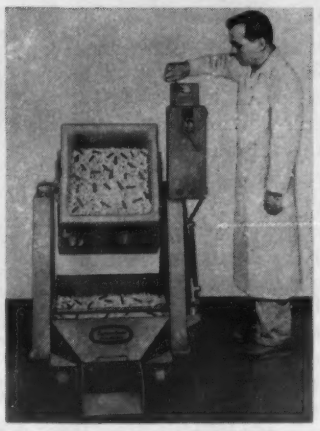
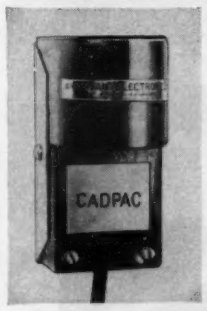
VIBRATORY FINISHING MACHINE
2½-cu ft unit vibrates at 3380 cpm



Standard vibrating frequency of 3380 cpm and capacity of 2½ cu ft minimizes deburring, descaling, cleaning, and burnishing cycle times in the VT-72 Vibrasheen, a vibratory metal parts finisher. Unit activates 100 per cent of the parts and media in the tub and removes burrs in holes and crevices. An air cylinder pivots the tub through a 130-degree arc for easy loading and unloading. Tub is lined with ⅜-in. plastisol. Vibratory mechanism is adjustable for impact range from 600 to 2500 lb. Machine occupies only 5½ sq ft of floor space. • **King-Seeley Corp.**, Almco, Queen Products Div., Albert Lea, Minn.

▲ For more details circle NED-101 B on enclosed inquiry slip ▲

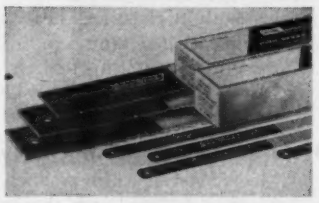
DC POWER SOURCE
replaces primary dry cell battery



Especially suited for signal, instrumentation, and communication circuits, Cadpac provides fail-safe 6-v dc from an ac power source. It also is usable as a low voltage, high capacity dc voltage reference. By merely removing cells, outputs of 4.8, 3.9, 2.4, and 1.2 v dc are available. Its capacity is 450 mah at a 10-hr rate without ac. It will supply 4 amp for short periods under severe load condition. Units reportedly operate 5 years or more without attention. • **American-Monarch Corp.**, 2801 37th Ave. N.E., Minneapolis 18, Minn.

▲ For more details circle NED-102 B on enclosed inquiry slip ▲

HACKSAW BLADES
high-speed production type



Twice the normal cutting efficiency and life are attributed to Silver Streak high-speed hacksaw blades. Improved metallurgically, this line of high-speed steel blades is a companion line to the Silver Steel tungsten blade line and is recommended for all production cutting where tungsten blades are not required. • **Borg-Warner Corp.**, Atkins Saw Div., 402 S. Illinois St., Indianapolis 9, Ind.

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CLEANING TOOLS
ELECTRIC OR PNEUMATIC

Zip away SCALE RUST PAINT

Powerful rotary chipping action completely removes stubborn accumulations from iron, steel, brick, concrete, etc. with less effort. Adjustable depth shoe for controlling depth of cut. Renewable cutter heads. Two sizes in both electric and pneumatic models. Lightweight.

Write for the money-saving facts.
AURAND MFG. & EQUIP. CO.
1322 Ellis St. • Cincinnati 23, Ohio

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HALF the world is half asleep! Men who could be making *twice* their present salaries are coasting along, hoping for promotions but doing nothing to bring themselves forcefully to the attention of management.

They're *wasting* the most fruitful years of their business lives . . . throwing away thousands of dollars they may never be able to make up. And, oddly enough, they don't realize—even remotely—the tragic consequences of their failure to forge ahead while time is still on their side.

Engineers and other technically-trained men are particularly prone to "drift with the tide" because their starting salaries are reasonably high and promotions come at regular intervals early in their careers. It isn't until later—too much later in many cases—that they discover there is a definite ceiling on their incomes as technicians.

Send for Your Free Copy of "Forging Ahead in Business"

If you want to discover how to succeed while you are still young—if you want to avoid the heartbreak of failure in later years—send today for "*Forging Ahead in Business*" . . . one of the most practical and realistic booklets ever written on the problems of personal advancement.

Here you will find—not a "pep talk," not an academic lecture—but cold, hard *facts* on how to improve your position and increase your income. You will be told what the qualifications of an executive are in today's competitive market . . . what you must *know* to make $15,000, $20,000 or more a year . . . what you must *do* to accumulate this knowledge.

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Yale gas trucks

with fluid coupling transmission are tops with operators and planners. Operators go for the low cowl with its wide visibility and greater safety, and for the deep-cushioned seat with easy accessibility from both sides. They like the finger-tip controls for hoist, tilt and direction. Planners find that long clutch life (due to fluid coupling, which eliminates metal-to-metal contact in transmitting power to the drive wheels) cuts down-time and maintenance costs. Capacities, 2000-3000 lbs.

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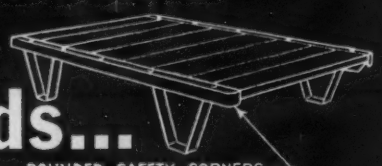
Ironbound



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IRONBOUND BOX & LUMBER COMPANY
55 HOFFMAN PLACE, HILLSIDE, N. J.

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is space tagged "PREMIUM" in your factory?

Now you can narrow down space-robbing aisles to a mere 72 inches with the remarkable new *Towmotor "Naro-Aisle-Stack" Series* Fork Lift Truck pictured above.

Notice how this outrigger-equipped truck stacks materials—left or right—in narrow 6-foot aisles—while performing all other functions of a conventional fork lift truck.

Space-saving? Cost-cutting? Unquestionably! Because it lets you store and warehouse as much as 39.7% more in the same storage area you're now using—without costly expansion.

Write for information on the Towmotor "Naro-Aisle-Stack" truck, a brand-new idea in profitable material handling.
Towmotor Corporation, Cleveland 10, Ohio.

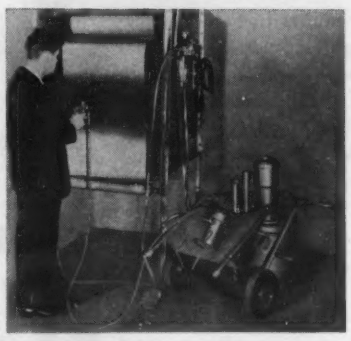
TOWMOTOR THE ONE-MAN-GANG ® -GERLINGER

FORK LIFT TRUCKS, CARRIERS AND TRACTORS SINCE 1919

Gerlinger Carrier Co. is a subsidiary of Towmotor Corporation

▲ For more details circle NED-107 B on enclosed inquiry slip ▲

AIRLESS SPRAYING OUTFIT materials can now be sprayed cold

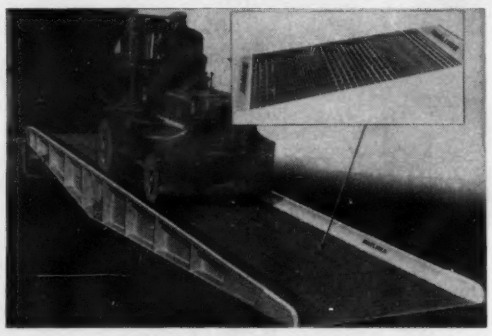


Improvements made in the HydraAirless 20 paint sprayer (*NED, Aug. '59*) and development of the H-Gun makes possible the handling of any type material with 40 to 100 per cent increase in efficiency. Flooding and pigtailing are totally eliminated, and fluid pressures needed for proper atomization have been reduced 40 to 50 per cent. Spray pattern edges can be feathered to permit overlap without danger of runs or sags. Finishing materials which formerly required heat to be sprayed can now be sprayed cold at 1200 to 1400 psi. • **Spee-Flo Co.**, 6614 Harrisburg Blvd., Houston 11, Tex.

▲ For more details circle NED-108 B on enclosed inquiry slip ▲

MOBILE LOADING RAMPS open grating is self-cleaning

Widths of 58 and 70 in. and lengths of 30 and 36 ft are offered in this line of magnesium mobile loading ramps. Capacities range from 7000 to 20,000 lb or



more when required. The open, self-cleaning grating from curb to curb prevents build-up of snow, ice, mud, oil, or grease. Serrated tracks, available in varying tread widths, are set into the grating surface for positive wheel traction. Also featured are 4½-in. high curbs, hydraulic lift system for positioning, 18-in. wheels with high speed bearings and pneumatic tires, and spring-loaded safety chains. • **Magline Inc.**, 1900 Mercer St., Pinconning, Mich.

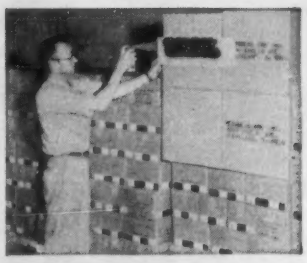
▲ For more details circle NED-109 B on enclosed inquiry slip ▲

How to Design With Honeycomb Materials

Hexcel Products, Inc.—Such aspects of honeycomb construction as sandwich theory, impact, fatigue, creep, environment, selection of facings and adhesives, selection of core material, surface preparation for bonding, and tooling methods are covered in 45-page handbook, "Honeycomb Sandwich Design."

▲ For more details circle NED-110 B on enclosed inquiry slip ▲

STENCIL INK—sprayed from can makes any marking fast, easy, clean



Container sprays a dense, compact cone of specially formulated ink at the touch of a finger. Ideally used for stenciling corrugated cartons, drums, fabric and wood shipping containers; stenciling assembly and lubricating instructions; and any other stenciling on metal, concrete, painted, plastered or other surfaces. Also used for color coding; identification marking, etc. 9 colors include black, red, blue, green, yellow, orange, air force blue, white and aluminum. Ink is very opaque. Dries in seconds. No smear, smudge or curtaining. Not to be confused with slow drying paints, lacquers or enamels. Always ready to use. No cans to open. No ball pots or fountain brushes to load. No drying out. No waste. No mess. Saves time. Easy to store. A trial will convince you. Fully descriptive bulletin sent on request. Write Reynolds Ink, Inc., 4504 Euclid Ave., Cleveland 3, Ohio. *(Advt.)*

▲ For more details circle NED-111 B on enclosed inquiry slip ▲

ROEBLING HERRINGBONE* SUITS...

wire rope users in construction, mining, lumbering and in all kinds of manufacturing industries. Why? Well, because it's new, different and very, very strong. It's two ropes-in-one-rope; Lang lay *and* regular lay. Herringbone has excellent flexibility, resistance to shock and abrasion; smooth, easy operation over and around sheaves and drums; standout spooling properties and structural stability.

Ask Roebling's Wire Rope Division, Trenton 2, New Jersey for the full Herringbone facts.

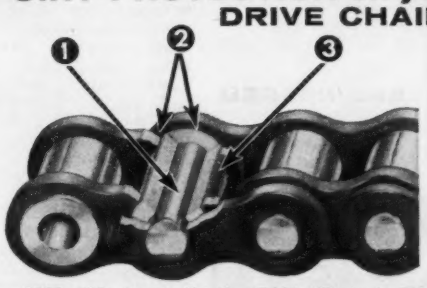
*Reg. Applied for

ROEBLING

Branch Offices in Principal Cities
John A. Roebling's Sons Division
The Colorado Fuel and Iron Corporation

▲ For more details circle NED-112 B on enclosed inquiry slip ▲

are you getting this 3-POINT PROTECTION on your DRIVE CHAIN?



Whitney MSL (Maximum Service Life) Chain is *lubricated for life* by oil-impregnated sintered steel bushings. With this development, Whitney solves a basic chain problem—*more damage is caused by faulty chain lubrication than by years of normal service.*

Pressure and heat cause built-in lubricant to expand and flow from bushings, providing a constant supply of oil to the 3 critical working areas of the chain:

1. **Pin, where protective film of oil completely lubricates live bearing area between pin and bushing.**
2. **Plates, where bushings extend beyond surface of inside plate to act as lubricated thrust bearing.**
3. **Sprocket engagement, where oil film on exterior surface of MSL Sintered Bushing provides constant lubrication between sprocket teeth and chain. Tough oil film provides smooth sprocket engagement, cushions impact and reduces drive wear.**

Whitney MSL chain conforms to ASA Standards and is completely interchangeable with only similar pitch ASA Standard chain. Carried in stock for immediate delivery by Whitney Distributors. *Write for catalog.*

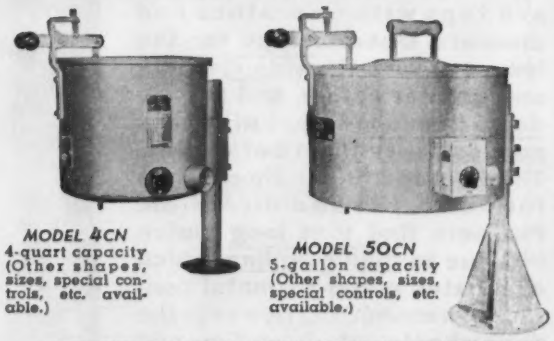
THE WHITNEY CHAIN COMPANY
a subsidiary of FOOTE BROS. GEAR AND MACHINE CORPORATION
4569 S. Western Blvd., Chicago 9, Ill.

POWER TRANSMISSION DRIVES

▲ For more details circle NED-113 B on enclosed inquiry slip ▲

Sta-Warm ELECTRICALLY HEATED DISPENSING TANKS AND POTS

From 2 quarts to 1000 gallons



MODEL 4CN
4-quart capacity
(Other shapes, sizes, special controls, etc. available.)

MODEL 50CN
5-gallon capacity
(Other shapes, sizes, special controls, etc. available.)

• **DESIGNED FOR FAST, EASY, EFFICIENT HEATING AND DISPENSING OF ASPHALT, PITCH, WAXES, THERMO-PLASTICS, ADHESIVES, etc.**

• **Sta-Warm engineers and builds a complete line of standard or special melters and dispensers to meet YOUR production line requirements.**

WANT A CATALOG? WRITE TODAY.

Sta-Warm ELECTRIC CO.
130 N. CHESTNUT ST., RAVENNA, OHIO
Subsidiary of ABRASIVE & METAL PRODUCTS CO.

▲ For more details circle NED-114 B on enclosed inquiry slip ▲

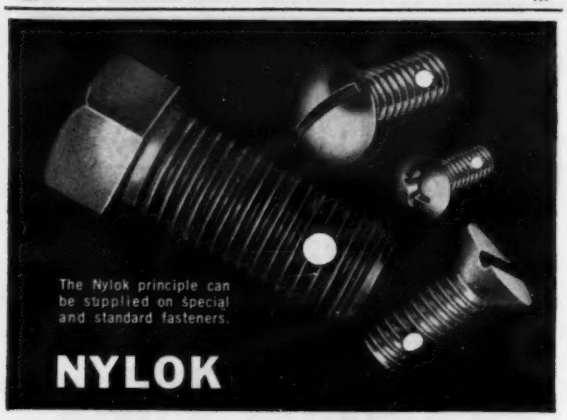
WITHSTANDS SEVERE VIBRATION, TENSION, TORSION

Lok-Thred fasteners, widely used on engines and motors, have a larger thread root diameter and wider root surface than the Unified National screw thread. When assembled into a standard American National tapped hole, the Lok-Thred re-forms the female thread to the shape of the entering thread. This produces the equivalent of a perfect selective fit and places the metal of the female thread under high compressive pre-stress.

Thus the Lok-Thred design provides constant locking and sealing action, increased strength in tension and torsion, higher fatigue limits than any conventional threaded part. In addition, Lok-Thred eliminates added bosses and blind tapping, acts as a dowel or taper pin, is fully reusable with equal effectiveness. Write for engineering data.

LAMSON & SESSIONS
5000 TIEDEMAN ROAD • CLEVELAND 9, OHIO
Plants in Cleveland and Kent, Ohio • Chicago and Birmingham

▲ For more details circle **NED-115 B** on enclosed inquiry slip ▲



LOCK...SEAL...ADJUST

Locking action is produced by a tough nylon pellet embedded in the fastener body. The pellet projects slightly beyond the thread crest, compresses to set up a counter-force and strong metal-to-metal engagement of threads opposite the pellet. Locking action is *sustained*, takes place whether or not the fastener is seated.

Sealing action is effective, even at elevated temperatures and pressures. The nylon pellet acts as a dam, prevents fluid from entering the gap between non-load-bearing flanks. Nylok fasteners will seal, seated or unseated.

Since the nylon pellet that locks Nylok fasteners is effective seated or unseated, Nyloks make excellent adjustment nuts and screws. Both male and female fasteners stay where you want them, yet adjustments can be easily changed. Write for engineering data.

LAMSON & SESSIONS
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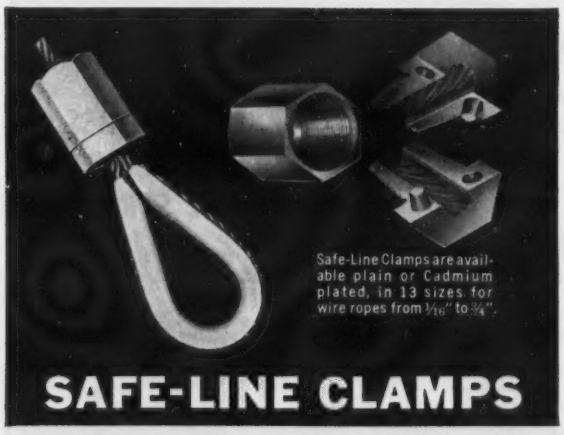
Plants in Cleveland and Kent, Ohio • Chicago and Birmingham

▲ For more details circle **NED-116 B** on enclosed inquiry slip ▲



REDUCE ASSEMBLY COSTS . . . NEVER SLIP

Safe-Line Clamps reduce costs without sacrificing reliability, since only one is needed in place of four or more common clips.

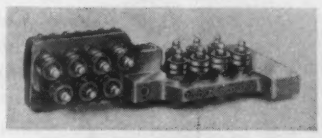
When the nut is tightened, holding contact is complete and firm the full length of the clamp. The clamp's elastic gripping action adjusts to rope "creeping" or changes in stress. *It never slips.* And it's fully reusable.

Simple design permits rapid assembly—by vise and wrench on the job, or assembly fixture for quantity production. Sharp wire ends are enclosed, projections are eliminated for safe assembly and disassembly, neat appearance. Write for engineering data.

LAMSON & SESSIONS
5000 TIEDEMAN ROAD • CLEVELAND 9, OHIO
Plants in Cleveland and Kent, Ohio • Chicago and Birmingham

▲ For more details circle **NED-117 B** on enclosed inquiry slip ▲

WIRE STRAIGHTENERS
grooved for one or range of sizes



Two sets of 5, 7, 9, or 11 grooved rolls of this series of wire straighteners are set at right angles to remove material curvature on both planes. Rolls can be grooved for the exact wire diameter, or can be V-grooved for a wide range of sizes. Flat, round, and irregular cross section wire can be straightened by the five standard and two heavy duty models offered for use with automatic feeds. They can be mounted on slide, roll, or hitch feeds. • **Durant Tool Co.**, 12 Thurbers Ave., Providence 5, R. I.

▲ For more details circle **NED-118 B** on enclosed inquiry slip ▲

WET-BLAST FINISHER
sit-down type cleans small parts

Operated from a sitting position, the 130-lb Consol-Matic wet-blast finisher will finish such small parts as eyeglass frames, cuff links, and vacuum tube leads. Operator places parts in either or both of two bays at the operating station, then depresses foot lever to actuate cylinder-positioned blast guns. Preset timer determines length of blast time and speed of gun oscillation. Unit operates on the aspiration system and employs fine abrasives up to 5000 mesh. It imparts a satin-like, chemically clean surface without heavy etching or stock removal. • **Pressure Blast Mfg. Co.**, Manchester, Conn.

▲ For more details circle **NED-119 B** on enclosed inquiry slip ▲

FOOT VALVE
fits in 55-gal drum bung opening

Maintaining a full line so as to assure exact flow measurement, the No. 409 foot valve is designed for use inside standard 55-gal drums. Slim body design and its 1/8 to 1½-in. adapter range enable it to fit through the bung opening. Valve has a cast iron body, steel poppet assembly with a Buna N disc, and a threaded cast iron adapter. Entire assembly may be made of special materials to suit the liquid. • **Universal Valve Co.**, Box 444, Elizabeth, N. J.

▲ For more details circle **NED-120 B** on enclosed inquiry slip ▲

PUT HOLDING POWER INTO THIN, SOFT MATERIALS

Plug Nuts are hardened, threaded inserts designed to be pressed into ductile material. Once inserted, the Plug Nut becomes a self-clinching, pre-placed nut, improving fastenability of thin or soft materials, such as steel, brass and aluminum. Plug Nuts are ideal for blind or hard-to-reach locations, and do not affect flatness of product material.

Plug Nuts are made for use in any thickness of material down to .030" and in any tap size from #4 to ¾". Available in case hardened steel, brass, various grades of stainless and aluminum in a full range of finishes. *Send for samples and application data.*

Distributors: Protected territories for the sale of Plug Nuts are available on a franchise basis

*Patented

LAMSON & SESSIONS
5000 TIEDEMAN ROAD • CLEVELAND 9, OHIO
Plants in Cleveland and Kent, Ohio • Chicago and Birmingham

▲ For more details circle **NED-122 B** on enclosed inquiry slip ▲

GIVES YOU TWO WAYS TO SAVE

1. Needs only about ¾ the tightening torque to produce the same clamping force in bolts as produced by comparable standard nuts and competitive lock nuts. Economical air stall drivers can be used to make important savings.

2. On the other hand, you can use present drivers and air pressures to draw up the Stover 33% tighter than comparable standard nuts and competitive lock nuts—a whopping extra margin in squeak-rattle resistance and safe operation.

Standard: 1½" dia. and smaller, fine and coarse thread, full and jam types. Steels for SAE bolt, stud grades 2 and lower, 3 through 8. Special order: for machine screws #8 and larger, S.S. and non-ferrous. Contact L & S for engineering data, samples, prices.

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▲ For more details circle **NED-123 B** on enclosed inquiry slip ▲

NEW STRUCTURAL BOLT

Lamson High Strength Bearing Bolt* has highest shear strength, greatest resistance to slip of all structural bolts . . . combines the tensile strength of a High Strength Bolt with the bearing of a rivet.

This new bolt offers decided advantages over High Strength Bolts (which we also manufacture)—yet it costs no more, size for size, when you take into account the cost of required washers.

The High Strength Bearing Bolt has already proved its superiority in critical applications, such as railroad bridges, ore processing machinery and heavy manufacturing mill buildings.

For detailed information, contact Lamson & Sessions or any U. S. Steel Supply Division Steel Service Center. Bulletin and samples on request. *Pat. App. for

LAMSON & SESSIONS
5000 TIEDEMAN ROAD • CLEVELAND 9, OHIO
Plants in Cleveland and Kent, Ohio • Chicago and Birmingham

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Place your order for BRASS Tube

With

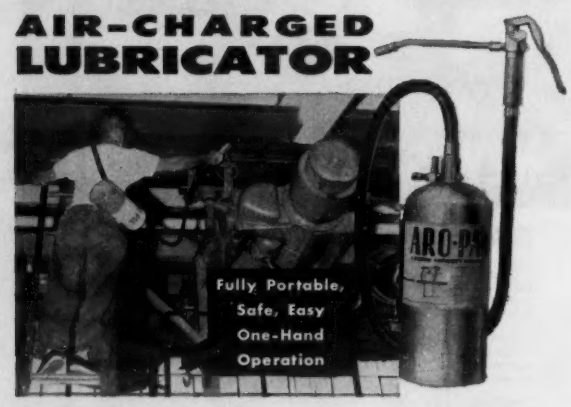
WOLVERINE TUBE
DIVISION OF
CALUMET & HECLA, INC.
17272 Southfield Road
Allen Park, Michigan
Manufacturers of Quality-Controlled Tubing and Extruded Aluminum Shapes

▲ For more details circle NED-124 B on enclosed inquiry slip ▲

NOW—Get Better, Faster Lubrication Plant-Wide —Cut Costs with

ARO-PAK

AIR-CHARGED LUBRICATOR



You'll never again use a hand gun for greasing in your plant . . . once you try a versatile, air-charged ARO-PAK! It's the answer to safer, faster, better lubrication of vital plant equipment.

ARO-PAK holds 5 lbs. of grease so you can lubricate far more fittings between refills. It has ARO's famous booster control handle to give you fast, volume delivery of grease with plenty of power for toughest fittings. It's ARO-built . . . backed by 30 years of lube equipment know-how! Get ARO-PAK for your needs plant-wide . . . to save time and cut costs in lubricating machinery, conveyors, trucks and many other types of equipment. Order the ARO-PAKS for your requirements *now*. Use the handy coupon.

- **PERMANENT AIR PRIME.** Air charge lasts for months.
- **BOOSTER CONTROL HANDLE** gives you volume grease delivery with pressures to 7,500 P.S.I.
- **LARGE CAPACITY,** holds 5 lbs. of grease.
- **LIGHT WEIGHT, PORTABLE** with strap for easy carrying.
- **FAST, CLEAN, VOLUME DELIVERY** of grease.
- **QUICK, EASY REFILL** from your regular industrial lube pump or hand gun filler.
- **ONE-YEAR WARRANTY** assures complete satisfaction.

Look to ARO for all your lube equipment needs!

THE ARO EQUIPMENT CORPORATION, Bryan, Ohio
Aro Equipment of Canada Ltd., Rexdale (Toronto), Ontario
Factory Branches: Detroit, Chicago, Elizabeth, N.J., Los Angeles, New York City, Minneapolis-St. Paul
Offices in All Principal Cities

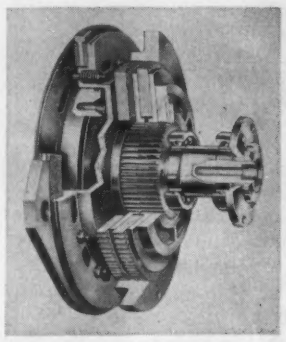
ARO® LUBE EQUIPMENT
Automotive • Farm • Industry
30 years of know-how

ONLY $31.00 COMPLETE! Order Now!

The Aro Equipment Corporation Dept. NED-260
Bryan, Ohio
Please send _____ ARO-PAKS @ $31.00 each.
We are enclosing check, money order or purchase order.
Name _____
Firm _____
Street _____
City _____ State _____

▲ For more details circle NED-125 B on enclosed inquiry slip ▲

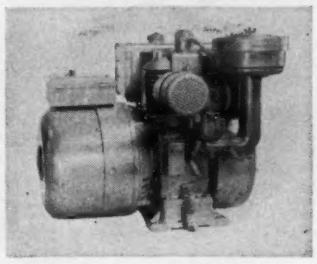
AIR CLUTCH & BRAKE
mounts on crank, cam, or drive shaft



Combination air friction clutch and brake is a single, automatically synchronized, fast-acting unit which can be mounted on crank, cam, or drive shaft. It can be used with flywheel, gear, or drive-spider and is mounted outboard or between bearings. Air pressure moves plate to engage clutch discs in one direction, and spring pressure applies brake as the air exhausts. • Minster Machine Co., Minster, Ohio.

▲ For more details circle NED-126 B on enclosed inquiry slip ▲

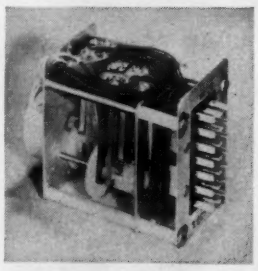
ELECTRIC PLANT
delivers either 110 or 220 v ac



Self-contained Model 41-BHS dual-voltage electric generating plant is powered by a Briggs & Stratton air-cooled gasoline engine and is rated 2500 w. Two separate receptacles are provided, one to deliver 110 v ac and the other, 220 v ac. Any amount of either current can be used up to the full capacity. Unit is suited for stand-by, construction, and other service. • Universal Motor Co., 331 Universal Dr., Oshkosh, Wis.

▲ For more details circle NED-127 B on enclosed inquiry slip ▲

REPEAT CYCLE TIMERS
use determines voltage, program



Machine controls, appliances, vending machines, switchboard equipment, and computers are applications for this line of low cost, long life repeat cycle timers. Quiet operation is achieved by mounting spring switches in molded contact blocks, and making cams, cam followers, and gear assemblies of molded nylon. Two printed circuit cables are used to wire 12 output circuits, and a pair of parallel cam shafts provide two cycling speeds. Voltage, cycle time, and programming are adaptable to the application. Jones type terminal plugs are used in the 4 x 3 x 2-in. unit which has a clear plastic dust cover. • A. W. Haydon Co., 232 N. Elm St., Waterbury, Conn.

▲ For more details circle NED-128 B on enclosed inquiry slip ▲

Don't ruin a valuable piece of equipment merely because some part is rusted tight. Apply Kroil, the amazing new chemical lubricant that creeps into millionth inch spaces (proved by laboratory tests), dissolves rust, supplies necessary lubrication and

LOOSENS FROZEN PARTS

18,000 of America's leading plants can't be wrong! They have used KROIL for 10 years and are still depending on it to save expensive labor and valuable parts. They say: "Kroil loosened bushings after a 12-ton press had failed" . . . "on repairing heat treat trolleys formerly destroyed every nut. Now Kroil saves them all, and time, too" . . .

You too should be using KROIL every day. Try it on money-back basis. Gallon $4.35; with Kroiler trigger squirt gun (shoots a drop or a stream 15 feet, if desired) $5.25; f. o. b. our factory.

KANO LABORATORIES 1074 Thompson Lane, Nashville 11, Tenn.

KANO LABORATORIES

▲ For more details circle NED-129 B on enclosed inquiry slip ▲

PROTECTED

GORTITE (Neoprene)

SLEEVES

BOOTS

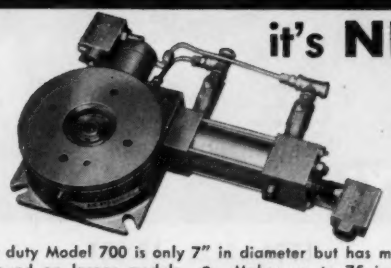
Ask for new bulletin AH-3, describing applications for hydraulic cylinders, jacks, rams etc. A&A Mfg. Company Inc., 712 S. 12th St., Milwaukee 4, Wisconsin

ALL SHAPES AND CONTOURS
BOOTS . . . SLEEVES . . . WAY-PROTECTORS

▲ For more details circle NED-130 B on enclosed inquiry slip ▲

LOW COST 7" INDEX TABLE

it's NEW



The heavy duty Model 700 is only 7" in diameter but has most of the features found on larger models • Makes up to 75 indexes per minute • Handles maximum work load of 100 lbs. • Maximum power stroke is 3 times line pressure • Operates on pressures from 60 to 175 p.s.i. • Clockwise rotation with either 4, 6, 8 or 12 stations standard • Others up to 24 stations and counter-clockwise rotation, to order • Bolt larger sub-plate (up to 14" dia.) to ground steel table for larger work area • Positive index—no override • Adjustable cushion and speed control • Each table checked for guaranteed accuracy of index (± .0015"), concentricity and parallelism.

WRITE NOW FOR FREE CATALOG AND PRICE INFO.

AIR-HYDRAULICS INCORPORATED
231 HUPP AVE.
JACKSON, MICHIGAN

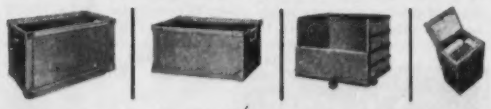
▲ For more details circle NED-131 B on enclosed inquiry slip ▲

LOOK, BOSS... KENNETTS ARE STRONG!

They're also:
Extra tough
Extra light
Shock-absorbing
Resilient
Quiet
Corrosion resistant
Snag-free
Easily cleaned
Priced right
They're made of National Vulcanized Fibre, a tough cellulosic plastic. They last for years!

Honest, boss. We can move our parts and products faster, cut losses from breakage and really save money with Kennett Receptacles. Send for their Bulletin K-1 today, won't you?

There's a style and size for the material handling problems in your plant.



KENNETT RECEPTACLES BY NATIONAL VULCANIZED FIBRE CO.
WILMINGTON 99, DELAWARE

▲ For more details circle NED-132 B on enclosed inquiry slip ▲

protect air systems without troublesome filters

Effective removal of moisture and line scale to prolong the life of pneumatic systems can now be accomplished without using filters. To keep your air systems properly functioning, install low-cost Anderson Hi-eF Purifiers.

Better than 99% of all damaging entrainment removed by unique two-stage design principle. Requires no maintenance, filters or screens of any kind.

BULLETIN 503 explains numerous plant benefits of clean air and steam lines. Write.

THE V. D. ANDERSON CO. 1988 W. 96th St., Cleveland 2, Ohio
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION

▲ For more details circle NED-133 B on enclosed inquiry slip ▲

NEW! BRIGHT! PERMANENT!

permanent line disc-type

AISLE MARKERS

...for wood, tile, concrete and asphalt floors!

• Never Wear Off! . . . Eliminate costly repainting of traffic lanes, aisleways, danger areas, guide lines, etc. • Choice of Colors! . . . Tough, reinforced fiberglas! Self-cleaning. Oil, dirt and acid resistant. • Fit Flush to Any Kind of Floor!

Correct size drills for installing Permanent Line Disc-Type Aisle Markers are available.

FOR BLOCK TYPE FLOORS — A complete line of Permanent Line *Block-Type* Aisle Markers are also available in all standard block sizes. Made of creosoted wood floor blocks capped by 5/8" layer of colorful, reinforced fiberglas. Quickly, easily installed.

WRITE TODAY FOR PRICES AND DETAILED INFORMATION

HAYDEN-SHAW MINERAL PRODUCTS

7816 W. Jefferson • Detroit 17, Michigan

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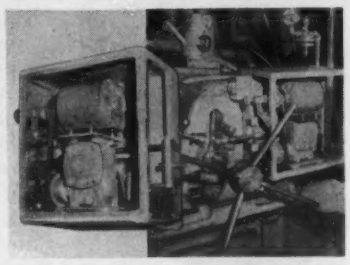
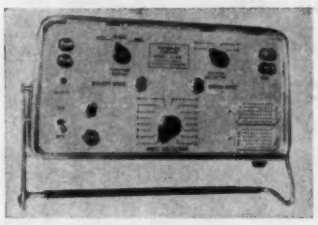
INFEED GRINDING ATTACHMENT
feeds 12 to 40 pieces per minute



A controlled grinding and dwell cycle that removes stock and holds finish constant is featured by automatic Lo-Die centerless grinder infeed attachment. Infeed is driven by a 1/4-hp, 220-v, three-phase motor and has feed rate variable from 12 to 40 pieces per minute. Parts are air-ejected after grinding. Unit makes use of aluminum castings and has hardened and ground steel cams, plus Oilite bronze and tapered bearings. • **Lordstown Tool & Die Co.**, R. D. No. 2, Warren, Ohio.

▲ For more details circle NED-136 B on enclosed inquiry slip ▲

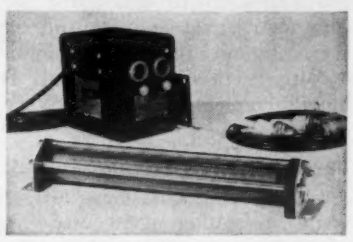
CIRCUIT TESTER
checks 64 wires at one time



Compact, semiautomatic Model A64 circuit continuity tester for table top use is relatively inexpensive and can be operated by untrained lab personnel. It automatically tests each wire under direct continuity, or checks out against all other wires in the harness or unit under test. Tester also checks out on a go-no-go basis any type of harnessing, cabling, connectors, and isolation of the points on breadboards. It will serve as a hi-pot checker, and provision is made for attaching an ohmmeter. Standard model checks 64 wires or 128 contacts at one time. • **Intercontinental Dynamics Corp.**, 170 Coolidge Ave., Englewood, N. J.

▲ For more details circle NED-137 B on enclosed inquiry slip ▲

STATIC ELIMINATOR
has high ionization without shock



When the Dual Point static eliminator bar is mounted 6 in. from the material to be discharged, the ionization field is about 14 in. wide. Device has two rows of emitting points and is suited for textile, rubber, plastic, and printing industry applications. Strict control of current assures high ionization without shock hazard. Operation is from a standard Takk power unit, and they can be used in series or with other Model 90 bars. • **Takk Corp.**, Newark, Ohio.

▲ For more details circle NED-138 B on enclosed inquiry slip ▲

2740

MOSTLY— THEY TALK ABOUT OUR NEW

PORTELVATOR®

THE HANDY HAMILTON PORTABLE ELEVATING TABLE

FOUR POINT SUPPORT

It LIFTS LOWERS POSITIONS TRANSPORTS all compact, heavy loads!

Top plate locks by gravity at any attained height when hand-crank pressure is released.

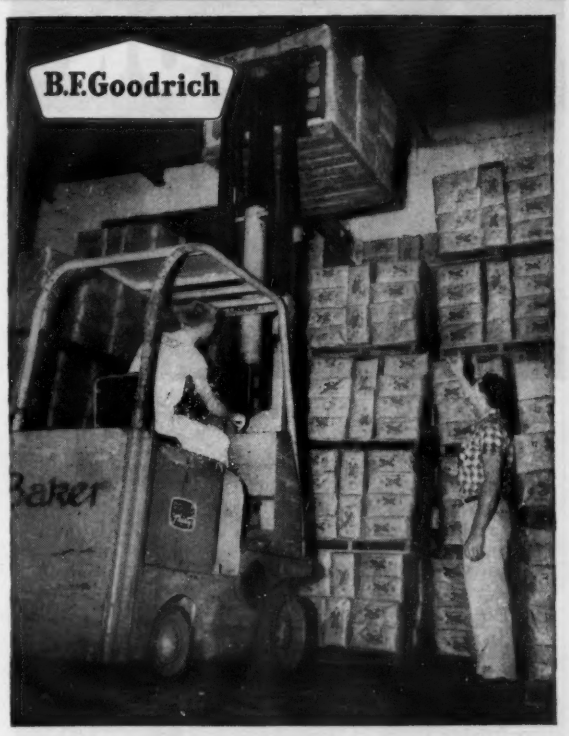
EASE OF MOVEMENT SAFETY INHERENT IN DESIGN

FIVE STANDARD MODELS (capacities to 5,000 pounds)

Write for FREE LITERATURE BATCH No. P-800

THE HAMILTON TOOL COMPANY
901 HANOVER STREET • HAMILTON • OHIO

▲ For more details circle NED-139 B on enclosed inquiry slip ▲



No tire trouble in 9 years at supermarket warehouse, thanks to B.F.Goodrich TW Analysis

Publix Supermarkets, Inc., operates a chain of 59 stores throughout Florida, services them from a warehouse in Lakeland. When the warehouse was built in 1951, Publix called in the B.F.Goodrich Tire and Wheel Analysis Man to make industrial tire recommendations.

He studied the warehouse setup, then advised which B.F.Goodrich industrial tires would give longest service at lowest cost. Publix followed his recommendations, and today—9 years later—the company has *never* had a lift truck out of service because of tire trouble!

This case history is typical of the savings BFG Tire and Wheel Analysis Men offer. Why not take advantage of this *free* B.F.Goodrich service. Mail the coupon below today.

A special B.F.Goodrich consulting service is available for manufacturers of materials handling equipment.

Specify B. F. Goodrich tires when ordering new equipment

B.F.Goodrich Smileage!

©The B. F. Goodrich Company

The B.F.Goodrich Company Department TW-810, Akron 18, Ohio

Please send me additional information on your free Tire and Wheel Analysis Plan.

NAME
COMPANY
STREET
CITY ZONE STATE

B.F.Goodrich *industrial tires*

▲ For more details circle NED-140 B on enclosed inquiry slip ▲

STOPS RUST!

530% better than other widely promoted brands!

BRUSH OR SPRAY!

DRY IN 20 MINUTES! TOP COAT IN 2 HOURS!

Krylon Rust Magic penetrates deeper, dries faster, protects longer than other metal primers . . . earned a near-perfect 9.1 rating in ASTM method Rust Prevention Index tests . . . 530% higher than other leading brands! Penetrates rust in minutes . . . bonds itself to the metal . . . positively prevents further corrosive action. Compatible with almost any finish . . . lacquers, enamels, varnishes, acrylics, epoxies, vinyls, latex, oil-base and water-base paints. At leading jobbers and paint stores everywhere—or write on your company letterhead for information.

RUST MAGIC SUPERIORITY

BRAND A RUST MAGIC

Metal panels subjected to extreme salt spray for 500 hours. Brand A shows severe blistering, underfilm corrosion, widespread lifting and creeping. Rust Magic panel film shows no defect or corrosion except where scribed through to bare metal.

KRYLON, INC., Norristown, Pa.

Since 1948 KRYLON has sold more aerosol paints than all other aerosol brands combined

▲ For more details circle NED-135 B on enclosed inquiry slip ▲

NEW..

IMPROVED TRUCK FOR CARRYING STRAPPING SUPPLIES

ACME STEEL Unit-Load Truck and Coil Holder

- All-steel construction makes it rugged and durable
- Rolls smoothly on rubber-tired wheels • tubular steel frame and handle • loads quickly from either side
- accommodates ¾", 1¼" and 2" wide Unit-Load Band in ribbon-wound coils • feeds strap easily • holds everything you need—tools, seals, corner protectors, anchors and strap.

Write for full information: Dept. NBU-20, Acme Steel Products Division, Acme Steel Company, Chicago 27, Illinois. In Canada, Acme Steel Company of Canada, Limited, 743 Warden Avenue, Toronto 13, Ontario.

ACME STEEL **STEEL STRAPPING**

▲ For more details circle NED-141 B on enclosed inquiry slip ▲

NEW VITON*

*Viton is a trademark of the DuPont Company

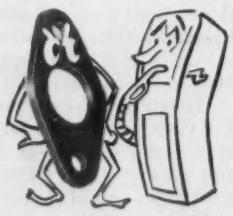
RUBBER PARTS BY STALWART

RESIST OILS

Offer the finest fluid resistance of any synthetic rubber now available . . . retain strength and resiliency where ordinary synthetics fail under similar operating conditions.

RESIST CHEMICALS

Provide unsurpassed resistance to a wide range of solvents, acids and bases at accelerated temperatures...maintain their stability when other compounds deteriorate.



RESIST FUELS

Will not shrink or swell when exposed to commercial fuels, fluids and lubricants, including exotic fuels . . . assure dependable performance under severe attack.

8846-SR

RESIST TEMPERATURES

Withstand temperatures up to 450° F. in continuous service ...up to 600° F. in intermittent service . . . have fireproofing qualities equivalent to stainless steel.

SEND TODAY FOR NEW STALWART CATALOG

The world's largest producer of silicone custom rubber parts

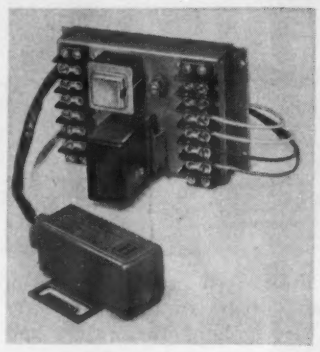
STALWART RUBBER COMPANY

151 Northfield Road, Bedford, Ohio

Northfield Road, Bedford, Ohio. Manufacturing facilities in Jasper, Georgia and Bedford, Ohio.

▲ For more details circle NED-142 B on enclosed inquiry slip ▲

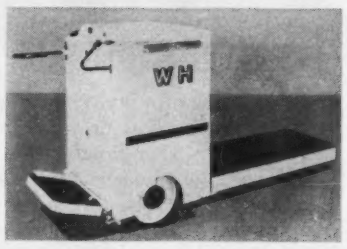
PROXIMITY SWITCH detects magnetic materials



A sensor and a separate transistorized amplifier with plug-in relay comprise this proximity switch, designed for limit, interlock, counting, or indicating uses. Sensor detects magnetic material without physical contact and feeds electrical output to bi-stable amplifier which may be located up to 150 ft away. It can be used to sense products ranging from automotive frames to bottle caps. Sensor is sealed in metal enclosure and can be used in oil, grit, vibration, dirt, or sludge environments. Amplifier operates double-pole double-throw relay. Sensitivity range is adjustable from ⅛ to ½ in. Switch is energized by 105-127 v ac. • **Minneapolis-Honeywell Regulator Co.**, Micro Switch Div., 205 S. Chicago Ave., Freeport, Ill.

▲ For more details circle NED-143 B on enclosed inquiry slip ▲

LOW-LIFT PLATFORM TRUCKS offered in four capacities



Various platform widths, lengths, and lowered heights are available in this ride-on series of 30-v electric low-lift platform trucks. Minimum lowered height is 6½ in., minimum width is 18 in., and a 4-in. lift is standard. Capacities are 2000, 3000, 4000, and 5000 lb. Lifting and lowering operations are pushbutton actuated through a hydraulic circuit that is independent of the drive system. Drive is through an enclosed gear train and differential to two 16 x 4-in. wheels. Both drive and trail wheels steer to afford a short turning radius, and wheels under the platform are articulated for smooth travel over bumps. A magnetic controller provides four speeds forward and reverse. Maximum speed is 6 mph. • **Wright-Hibbard Industrial Truck Co.**, Box 227, Hamburg, Pa.

▲ For more details circle NED-144 B on enclosed inquiry slip ▲

Jacketed Pipe Fittings

J. P. Devine Mfg. Co.—Although steam is the most common heating agent used in jacketed fittings and pipe, other agents are being used successfully. Diagrams, charts of sizes, and other information on jacketed fittings, gate valves, two and three-way plug cocks, expansion joints, and strainers are found in 6-page bulletin.

▲ For more details circle NED-145 B on enclosed inquiry slip ▲

INVESTIGATE

Euclid HOISTS

Compact, trouble-free. One-piece, heavy steel. Combination hoist frame and gear housing prevents misalignment or oil leakage. Time and work proved design.

SERIES "S" for Satisfactory Service... Sensibly Priced

Where a low investment is desired, with all operating features not required, this plain trolley is ideal.

"S" Hoists are also offered with lug and hook-on suspensions; with hand racked trolley and motor driven trolley.

EUCLID

THE EUCLID CRANE & HOIST CO.
1365 Chardon Road • Cleveland 17, Ohio

▲ For more details circle NED-146 B on enclosed inquiry slip ▲

Now! get complete data on

MINIATURE AGASTAT® time/delay/relays

This free folder contains complete specs on 24 models of the miniature AGASTAT Time Delay Relay for missile, aircraft, computer, electronic and industrial applications. They're small as 1-13/16" x 4-7/16" x 1½", with adjustable timing ranges starting at .030 and as high as 120 seconds.

The folder gives operating and environmental specs, coil data, contact capacities, dimensions, diagrams of contact and wiring arrangements. *Write:* Dept. A33-25.

AGA DIVISION **ELASTIC STOP NUT CORPORATION OF AMERICA**
Elizabeth, New Jersey

▲ For more details circle NED-147 B on enclosed inquiry slip ▲

"Feeds Itself" HOG RING FASTENER

- Exclusive automatic feed for fast operation.
- Loads quickly and easily with strip of 50 pre-formed staples.
- One-hand operation.
- Replaces tying, winding, wrapping, wiring, taping.
- Cords, ropes and cables 1/2 inch or less over-all can pass inside the open staple, which can be compressed down to 5/16 inch.
- Pointed staples provide easy penetration for fastening sisal, burlap, felt or other fabrics to wire frames.
- Ideal for tightly sealing twisted necks of cloth, paper or plastic.

FREE DEMONSTRATION OFFER—No obligation. Circle the Reader Service Card at the back of this publication. We'll arrange a demonstration in your plant—wherever you use "wrap-around" fastening. FREE BULLETIN—We'll also send you descriptive literature on the P7 and some of its many applications.

Fasten it better and faster with

BOSTITCH®
STAPLERS AND STAPLES

682 BRIGGS DRIVE, EAST GREENWICH, R. I.

▲ For more details circle NED-148 B on enclosed inquiry slip ▲

Now, with more than fifty models in the Dustkop line—plus efficient accessory items—the odds are that a standard unit will solve your problem. Dustkop units solve other problems too. They're easier to install, save space and money and are virtually maintenance-free!

how to select a dust collector

This new brochure includes all basic information needed to select the right dust or mist collector for grinding, buffing, polishing and other types of service. Write for your copy. No obligation.

AGET Manufacturing Company
1396 Church St., Adrian, Michigan
DUSTKOP STOPS DUST

▲ For more details circle **NED-149 B** on enclosed inquiry slip ▲

WEAR RESISTANT
THOMSON

AVOID the HIGH COST and difficulty of fabricating long, hard & straight parts by conventional methods...

60 Case hardened and ground

SHAFTS, ROLLS, GUIDE RODS and other long-round parts
ELIMINATE WEAR and REDUCE COST

ADVANTAGES of 60 Case

- COST REDUCTION
- HARD BEARING SURFACE
- NICK- & DENT-PROOF
- ACCURATE DIAMETERS
- GROUND FINISH
- STRAIGHT PARTS
- DELIVERY FROM STOCK
- ADDED STRENGTH
- UNIFORM HIGH QUALITY

60 Case material has a Rockwell 60C surface hardness which is essential to reduce wear.

Big savings are offered over conventional methods which are plagued with erratic warpage, straightening and resultant grinding problems. Finished *60 Case* parts frequently cost less than the scrap losses that result from conventional methods.

Stocked in ¼" to 4" diameters. Available with or without special machining. *Write for literature and name of your local representative.*

TYPICAL 60 Case PARTS

GUIDE RODS, SHAFTING, ROLLS, TRAVERSE RAILS, PISTON RODS, ARBORS, LEADER PINS, TIE RODS, KING PINS, AXLES, CONTROL RODS, GUIDE POSTS, MANDRELS, BEARING ROLLERS, SPINDLES

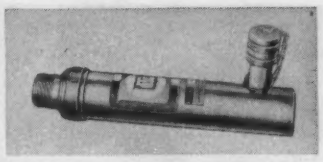
For emergency needs call collect MAnhasset 7-1800

THOMSON INDUSTRIES, Inc.
Dept. C2, Manhasset, New York

PARTS HARDENED to 60 C...increase life...reduce cost!

▲ For more details circle **NED-150 B** on enclosed inquiry slip ▲

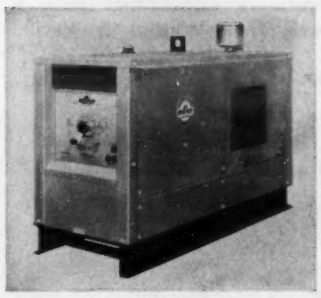
HYDRAULIC RAMS
2 to 50-ton capacities



Nine sizes are available in this line of single-cylinder, single-acting hydraulic rams. They range from a 1 11/16-in. long unit with ⅝-in. stroke to a 20¼-in. unit with 13½-in. stroke. Capacities range from 2 to 50 tons with maximum working pressures of 8650 and 10,000 psi. The compact, lightweight rams are bored from solid round steel stock and precision honed. • **Owatonna Tool Co.**, 436 Cedar St., Owatonna, Minn.

▲ For more details circle **NED-152 B** on enclosed inquiry slip ▲

DC WELDER
driven by 38-hp diesel engine



A Hercules 38-hp, three - cylinder, direct-injection diesel drives this DD-250-L direct-current welder - power plant which has welding ranges of 50-200 and 150-350 amp. Rated 250 amp dc at 40 v, 100 per cent duty cycle, unit has maximum open circuit voltage of 65. Power specifications include 12 kw, 115-230 v single-phase ac, and up to 6.5 kw ac while welding, as well as 1-kw, 115 v auxiliary dc while welding. • **Miller Electric Mfg. Co.**, Appleton, Wis.

▲ For more details circle **NED-153 B** on enclosed inquiry slip ▲

REFRACTOMETER
in-process type for chemicals

Accurate refractive index measurements to 0.00025 can be made on clear, turbid, or even opaque chemical solutions by in-process type Goldberg process refractometer. It is installed in line, or directly to mixing tank, open kettle, or process vessel. Light from built-in illuminator passes through solution and is reflected back through a prism to the telescope where reading is made directly from built-in scale. Corrections for temperature can be made by simple adjusting screw. Brix scales of 0-20, 12-72, and 36-82 degrees are also available. • **American Optical Co.**, Instrument Div., Sugar & Eggert Roads, Buffalo 15, N. Y.

▲ For more details circle **NED-154 B** on enclosed inquiry slip ▲

INDUSTRIAL INKS To Mark Anything!

Whatever the substance, Phillips has an ink to mark it permanently and legibly—or can make one. Marking experts insist on "Clear Print" Wood Block Stamp Pads and Opaque Inks. They get clear, sharp, fast-drying impressions. Also inks for brush, pen, stencil or machine application available in a variety of colors and quantity containers.

★ Quick Laboratory Service On Your Problem Markings

★ To Permanently Mark . . . Metals, Plastics, Glass, Wood, Paper, Leather, Ceramics—glazed, varnished or lacquered surfaces and virtually every other known material.

For Complete Information Phone BAker 5-8201 or write:

PHILLIPS PROCESS CO. INC.
192 MILL STREET
ROCHESTER, NEW YORK

▲ For more details circle **NED-156 B** on enclosed inquiry slip ▲

PUSHOMATIC®

interchangeable

QUICK DISCONNECTS
AIR GASES LIQUIDS

connect or disconnect the fastest and easiest way

Just plug in . . . the patented PUSHOMATIC locking mechanism automatically forms a positive leak-proof connection . . . no turning or twisting necessary. Connect to most sockets and plugs regardless of make . . . because the **Series D is interchangeable** . . . interchangeability saves valuable set-up time and reduces costly inventories.

Integral shut-off valve provides fast connection on production set-ups . . . one hand operation permits fast, easy connecting or disconnecting.

360° swivel action reduces operator fatigue and eliminates aggravating hose kinking and twisting.

The **Series D interchangeable** coupling can be used on air, gases, or liquid lines which makes it ideal for most industrial uses. Maximum flow with minimum pressure drop.

The performance and construction of the Series D Coupling meets Military Specifications MIL-C-4109-A.

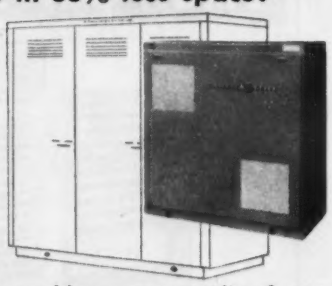
Write for Bulletin 1500—compare high flow characteristics.

PERFECTING SERVICE CO.
332 Atando Ave. Charlotte, North Carolina
Baltimore - Buffalo - Chicago - Cleveland - Camden - Los Angeles
New York - Providence - Montreal - Toronto, Canada

▲ For more details circle **NED-157 B** on enclosed inquiry slip ▲

Reliance V★S Drives

more power in 35% less space!



Super 'T' V★S Drives are efficient, integrated units—with a wide range of stepless variable speeds from in-plant a-c. circuits.

New Super 'T' V★S units are simple to install and maintain. Only the drive motor needs to be placed at the machine . . . power unit and operator's control can be located wherever space and convenience permit. These new units utilize Class B insulation . . . resulting in a more compact package. 100% overloads of one minute duration are accomplished without failure.

WRITE FOR NEW RELIANCE V★S BULLETIN Number D-2506. Gives you complete information. Or call your nearest Reliance Sales Engineer for delivery schedules on full line, 1—350 hp. D-1648

RELIANCE ELECTRIC AND ENGINEERING CO.
242A CLEVELAND 17, OHIO
Canadian Division: Toronto, Ontario
Sales Offices and Distributors in Principal Cities

▲ For more details circle **NED-151 B** on enclosed inquiry slip ▲

Duty Master

a brand new A-c. motor

New design gives users better protection from the inside out, simplified lubrication, better response and improved all around performance. The Duty Master a-c. line, from protected to totally-enclosed, explosion-proof, 1 to 250 hp. is ready for delivery *now*.

NEW DUTY MASTER BULLETIN now available with specific information about its advanced engineering qualities and design features. Write for B-2106. B-1646

RELIANCE ELECTRIC AND ENGINEERING CO.
242A2 CLEVELAND 17, OHIO
Canadian Division: Toronto, Ontario
Sales Offices and Distributors in Principal Cities

▲ For more details circle **NED-155 B** on enclosed inquiry slip ▲

REEVES VARI-SPEED MOTODRIVE

Now available in this compact design, Reeves Vari-Speed Motodrives deliver 2:1 through 10:1 speed variation, output speeds as low as 1.71 to as high as 4660 rpm.

The infinitely variable output speeds meet almost every production need.

You can get these drives with output shaft on same (C-Flow) or opposite side of the motor (Z-Flow); vertical, 45°, horizontal or trunnion models; no reducer, and single, double or triple stage reductions . . . hundreds of space saving assemblies. Reeves provides a full range of modifications, accessories, and manual, remote or automatic controls.

Complete data on sizes 100—500 (¼—20 hp.) and sizes 8000 (25—40 hp.). Write for new Reeves 8 page catalog G-5812 or check your Reliance Sales Engineer. G-1655

RELIANCE ELECTRIC AND ENGINEERING CO.
242A1 CLEVELAND 17, OHIO
Canadian Division: Toronto, Ontario
Sales Offices and Distributors in Principal Cities

▲ For more details circle **NED-158 B** on enclosed inquiry slip ▲

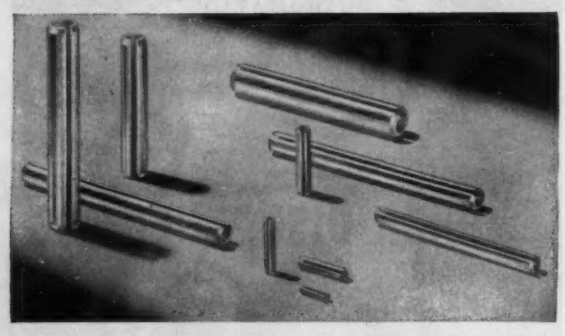
it's BORROUGHS for SHOP EQUIPMENT

1 America's number "1" buy for top quality and efficiency. Work benches are adaptable to combinations and provide maximum sound deadening. Borroughs' line also includes tool stands, utility carts, shop desks and tables, portable and semi-portable work bench kits. **Send for catalog.**

BORROUGHS MANUFACTURING COMPANY OF KALAMAZOO
A SUBSIDIARY OF THE AMERICAN METAL PRODUCTS COMPANY OF DETROIT
3072 NORTH BURDICK ST. amp KALAMAZOO, MICHIGAN

▲ For more details circle NED-159 B on enclosed inquiry slip ▲

Now! For superior electrical properties...



SEL-LOK spring pins in beryllium copper

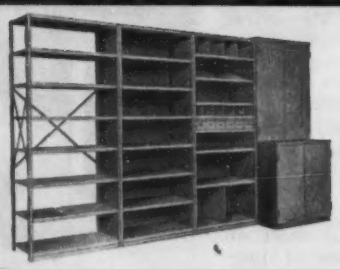
- High conductivity.
- Nonsparking and nonmagnetic.
- Self-locking.
- Excellent corrosion resistance.
- Swift, economical fastening (just drill and drive).
- 60% the strength of carbon steel.
- 101 uses—as keys, axles, cotter pins, hinge pins, stop pins, pivots, etc.
- Sizes from 1/16 x 3/16 to 1/4 x 3 1/2 in.

Send for Bulletin 2331—complete information on SEL-LOK spring pins, including those made of carbon and corrosion-resistant steel.

INDUSTRIAL FASTENER Division sps
JENKINTOWN 24, PENNSYLVANIA

▲ For more details circle NED-160 B on enclosed inquiry slip ▲

it's BORROUGHS for STEEL SHELVING

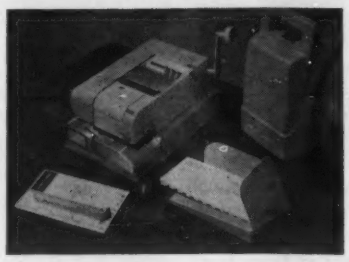


2 No "2" ways about it—Borroughs steel shelving is America's most simple, most flexible, most rapidly assembled shelving. With Borroughs shelf support brackets, shelves can be installed or rearranged without nuts or bolts. No special tools needed to assemble units. **Send for catalog.**

BORROUGHS MANUFACTURING COMPANY OF KALAMAZOO
A SUBSIDIARY OF THE AMERICAN METAL PRODUCTS COMPANY OF DETROIT
3072 NORTH BURDICK ST. amp KALAMAZOO, MICHIGAN

▲ For more details circle NED-161 B on enclosed inquiry slip ▲

MAILING MACHINE
seals, stamps, and stacks letters



Postage meter incorporated in the Model 5500 desk model mailing machine permits selection of any postage denomination from one-half cent up to $1.09½ in a single stamp. Meter stamp can be printed directly on letters, or on a gummed tape for parcel post packages. Machine seals, stamps, and stacks letters in one operation. Standard equipment includes a lightweight meter carrying case, a 40-envelope stacker, a parcel post tape dispenser, an internally fed adjustable inker, and a water level indicator for the sealer. The postmark date is easily changed, and a 2-in. postmark advertising space is provided. • **Pitney-Bowes, Inc.**, Walnut & Pacific Streets, Stamford, Conn.

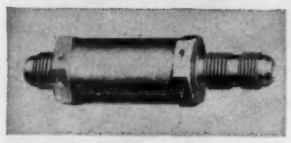
▲ For more details circle NED-162 B on enclosed inquiry slip ▲

SAFETY SHOES & BOOTS
for on and off the job wear

Three oxfords and two boots added to the Hy-Test line of safety shoes are styled for work or play, or for both. Oxford line includes a dirty buck, an embossed four-eyelet, and a casual style. Boot styles are an 8-in. sportsman type Nok-a-bout and a 10-in. all-purpose black plain toe. All five styles have anchor flange steel box toes. • **International Shoe Co.**, Hy-Test Div., 1509 Washington Ave., St. Louis 66, Mo.

▲ For more details circle NED-163 B on enclosed inquiry slip ▲

SPEED LIMITING VALVE
stops hydraulic motor run-away



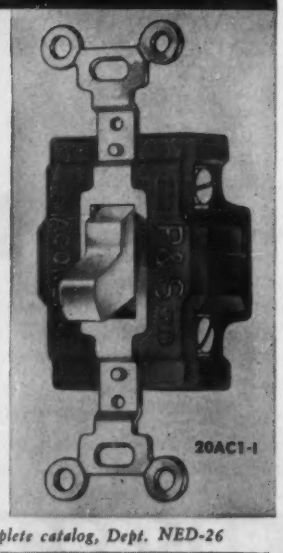
By controlling flow into hydraulic motors, this 3000-psi speed limiting valve prevents them from running away and also averts damage to other equipment. Normal flow is 2.2 gpm with a maximum flow of 3.5 gpm and a limited flow of 0.5 gpm. Valve automatically limits flow when it reaches the maximum setting, then resets and permits normal flow when inlet pressure is reduced to 15 psi. Specifications can be changed to meet specific requirements. • **Fluid Regulators Corp.**, 313 Gillette St., Painesville, Ohio.

▲ For more details circle NED-164 B on enclosed inquiry slip ▲

SPECIFIED FOR RUGGED DUTY

P&S

SUPER AC SWITCHES



- Extra large terminal screws.
- Extra large silver buttons.
- Can be used to *full rated capacity* on inductive loads.
- Contacts in upright position mounted at point of least vibration.
- Available in 15 and 20 Amp. types.

Send for complete catalog, Dept. NED-26

P&S PASS & SEYMOUR, INC.
SYRACUSE 9, NEW YORK
60 E. 42nd St., New York 17, N.Y. 1440 N. Pulaski Rd., Chicago 51, Ill. In Canada: Renfrew Electric Co., Ltd., Toronto, Ontario

▲ For more details circle NED-165 B on enclosed inquiry slip ▲

HORIZONTAL BASE MOUNTED

BOSTON Gear OPTIMOUNT TRADEMARK

FLANGED REDUCTOR

REDUCTOR

Standard models meet any drive conditions. Interchangeable parts permit easy adaptation to different drives.

RATIOMOTOR

From Stock

CALL YOUR BOSTON Gear DISTRIBUTOR

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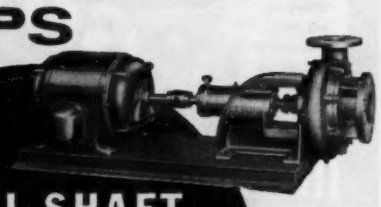
DEMING END-SUCTION CENTRIFUGAL PUMPS



AXIAL SHAFT ADJUSTMENT

provides regulation of capacity and head, and adjustment for impeller wear. This can be performed while pump is operating. Bulletin 4011-C.

Just one of the many Deming pump features that provide longer life and lower operating costs

The DEMING Co.
206 BROADWAY • SALEM, OHIO

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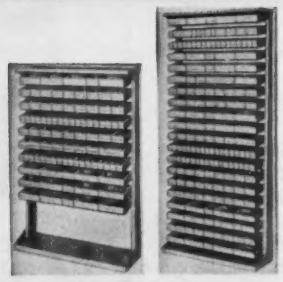
it's BORROUGHS for small parts BINS



3 Borroughs "Handee Andee" small parts Bins come in "3" heights—32", 56", 84", and will hold 4 sizes of bin boxes in any desired arrangement. These sturdy bins offer maximum storage in minimum space, and provide complete accessibility, flexibility, visibility. **Send for catalog.**

BORROUGHS MANUFACTURING COMPANY OF KALAMAZOO
A SUBSIDIARY OF THE AMERICAN METAL PRODUCTS COMPANY OF DETROIT
3072 NORTH BURDICK ST. amp KALAMAZOO, MICHIGAN

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Increase Your Production Capacity the Easy, Low-Cost Way! Use the . . .

Alcoa JOBBING DIVISION!

In a production jam because of temporarily inadequate facilities? Not tooled up for components you'd like to be making? Need specialized equipment or personnel?

Alcoa's Jobbing Division can solve any or all of these problems . . . save you money and time . . . give you the service of all the metal-working machines and fabricating facilities you need *without* capital investment . . . offer engineering and design help . . . and can produce it for you!

For information, see your nearest Alcoa sales office. (For a free, 16-page booklet describing Alcoa's Jobbing Division facilities, check the coupon at the bottom of this page.)

Your Guide to the Best in Aluminum Value — ALCOA ALUMINUM — CALL YOUR NEAREST ALCOA SALES OFFICE!

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For Bearings and Bushings That Cost Less, Give More and Last Longer . . .

Alcoa Aluminum BEARING STOCK!

Need bearing stock for bushings and bearings? Your Bunting Distributor stocks Alcoa® Aluminum Bearing Stock in a warehouse not far from *you!*

Aluminum bearings withstand loads up to 10,000 psi; run as much as 20 degrees cooler than other materials; reduce starting torque. Aluminum is easily machined. It conforms readily to misaligned shafts. It's longer lasting in tough service.

Call your Bunting Distributor now, and start to save money. Like more information? Check the coupon below!

Your Guide to the Best in Aluminum Value — ALCOA ALUMINUM — CALL YOUR BUNTING DISTRIBUTOR TODAY!

▲ For more details circle NED-170 B on enclosed inquiry slip ▲

Cut Your Fastener Inventory! Get Any Type or Size; High-Strength, Heat-Treated Alloys; Low Prices; Fast Delivery . . . of

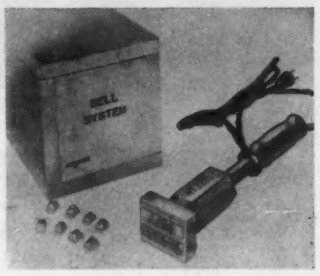
Alcoa Aluminum FASTENERS

No need to maintain a big inventory on fasteners. Look in the Yellow Pages for your local Alcoa distributor. He has the largest line of aluminum fasteners available today—Alcoa® Aluminum Bolts, Nuts, Rivets, Machine Screws, Wood Screws, Sheet Metal Screws, Washers, anything you need in standard types and sizes—and offers complete stocks, fast deliveries, lowest prices. Alcoa Aluminum Fasteners are made from corrosion-resistant, fully heat-treated, high-strength alloys with full threads, no burrs. And you'll get *full count* on every order . . . no misfits, "seconds," rejects. No need to stock too many, no need to run short. Call your local Alcoa distributor! (For more data and samples, check the coupon at the bottom of this page.)

Your Guide to the Best in Aluminum Value — ALCOA ALUMINUM — CALL YOUR NEAREST ALCOA DISTRIBUTOR!

▲ For more details circle NED-171 B on enclosed inquiry slip ▲

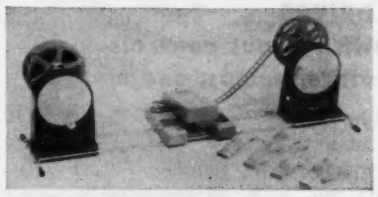
ELECTRIC BRANDER with interchangeable lettering



A two-line type holder for interchanging of letters or numbers is now available on improved Acrohex Electric Hand Brander No. 321. Flanged ¼-in. type cannot fall out of the slotted holder. Legends can be branded on wood, fiber, plastics, paper, and other materials. Units operate on 110-220 v ac and have a 6-ft or longer cord. Type holders carry 8 to 12 characters per line. With two-line holder, brander sells for $93; with one-line holder, price is $78. • **Acromark Co.**, 7-11 Morrell St., Elizabeth 4, N. J.

▲ For more details circle NED-172 B on enclosed inquiry slip ▲

MICROFILM SPLICER joins film with clear tape



Application of clear tape by the low-cost, easy-to-operate Presstape splicer provides a fool-proof method of revising, repairing, or consolidating 16 mm microfilm records. The clear joining tape is packaged so that operator does not touch the face of the film to complete the splice. • **Recordak Corp.**, 415 Madison Ave., New York 17, N. Y.

▲ For more details circle NED-173 B on enclosed inquiry slip ▲

ELECTRICAL TEST KIT contains voltammeter, accessories

An Amprobe Snap-on voltammeter, accessories, and the small hand tools most often used by electricians are contained in the Test-Master kit. Made of cowhide, the 10 x 7½ x 2½-in. kit can be used by electrical men in contracting, plant maintenance, refrigeration, air conditioning, and oil heating fields. Basic unit in the kit is an Amprobe RS-3 Snap-Around voltammeter-ohmeter with five current and three volt ranges. An Amprobe Deca-tran which extends amp readings 10 times, up to 1200 amp, and the Energizer which multiplies sensitivity 10 times are also provided in the kit. Price is $84.50. • **Pyramid Instrument Corp.**, 630 Merrick Rd., Lynbrook, L. I., N. Y.

▲ For more details circle NED-174 B on enclosed inquiry slip ▲

Stop Accidents! Protect Your Employees, Keep Production Moving . . . with

Alcoa Aluminum ABRASIVE TREAD PLATE!

Get lasting protection against slipping with Alcoa® Aluminum Abrasive Tread Plate . . . made with tough particles of fused aluminum oxide. Much lighter in weight, it's *much easier to install.* Corrosion resistant, it's *maintenance-free.* Long usage only renews the surface, uncovering embedded abrasive particles. Wherever the floor becomes wet, oily, greasy—wherever slippery materials accumulate—install Alcoa Aluminum Abrasive Tread Plate! (For sample and free booklet, check the coupon at bottom of this page.)

Your Guide to the Best in Aluminum Value — ALCOA ALUMINUM — CALL YOUR NEAREST ALCOA DISTRIBUTOR!

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Quick Delivery of Finer Welding Supplies Means a Better Welding Job . . . Faster!

Alcoa Aluminum WELDING MATERIALS

Lower final costs, improve finished quality by using Alcoa materials! Get answers, too—Alcoa offers you the benefit of extensive research in alloys, techniques, joining methods.

Here are some of Alcoa's welding materials:

- IG (Inert Gas) Welding Electrode
- Coiled Welding and Brazing Rod
- Straight-Length Welding and Brazing Rod
- Welding, Brazing and Soldering Flux
- Solder

For technical assistance, call your nearest Alcoa sales office. For quick delivery of materials, call your nearest distributor. (For welding films and recently released welding design information, check coupon below.)

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Offering the Broadest Distribution Organization in the Field . . .

ALCOA SALES OFFICES AND DISTRIBUTORS

Look in the Yellow Pages under "Aluminum"! There is an Alcoa sales office or an Alcoa distributor very near to you. Warehouses fully stocked with Alcoa® Aluminum products are strategically located everywhere. All the resources of Alcoa are yours, too: design help, research and development, production facilities, literature! Use this coupon for fast results . . . right now.

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For exciting drama watch "Alcoa Presents" every Tuesday, ABC-TV, and the Emmy Award winning "Alcoa Theatre" alternate Mondays, NBC-TV

Aluminum Company of America
1689-B Alcoa Building, Pittsburgh 19, Pa.

Please send me the samples or information I have checked:
Sample ☐ Free Booklet ☐ on Alcoa Aluminum Abrasive Tread Plate
Samples ☐ More Data ☐ on Alcoa Aluminum Industrial Fasteners
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Information on Welding Films ☐ Latest Welding Design Information ☐ More Information on Alcoa Aluminum Alloy Bearing Stock ☐

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COMPANY _____
STREET ADDRESS _____
CITY _____ ZONE ____ STATE _____

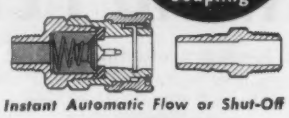
FOR QUICK CONNECTION and DISCONNECTION OF AIR CIRCUITS—

HANSEN Series RL QUICK-CONNECTIVE Ring-Lock Coupling

Here's the Coupling for the job

Write for the Hansen Catalog

Here is an always ready reference when you want information on couplings in a hurry. Lists complete range of sizes and types for compressed air, hydraulic fluids, oil, grease, water, vacuum, steam, oxygen, acetylene, refrigerants, gasoline, coolants, and LP-Gas.



Instant Automatic Flow or Shut-Off

Handles More Air —with Minimum Pressure Drop

Representatives in Principal Cities

THE HANSEN MANUFACTURING COMPANY
4031 WEST 150th STREET • CLEVELAND 35, OHIO

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EMBOSSED LABELS

MADE ON-THE-SPOT... IN SECONDS ON PLASTIC and METAL FOR PENNIES

ALL NEW MODEL M-3
DELUXE DYMO-MITE
In sparkling chrome with custom hole punch and corner rounding device.

$51.95 List

• BLACK •
AND COLORS
• W/WHITE •
LETTERING

NEW MACHINE ROUNDS CORNERS!
NEW MACHINE PUNCHES HOLES!

Black Tape Now Available!

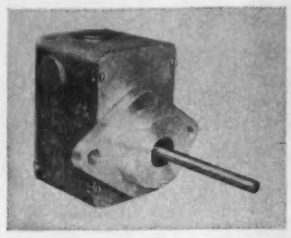
Free sample labels will convince you of the practicality of this remarkable tool. Whatever you have to label—a storage bin or a missile guidance control—the "M-3" will do it for you right "on-the-spot". Emboss finished labels yourself on a wide variety of pressure-sensitive colored plastic and metal tapes. Exclusively DYMO engineered . . . accept no substitute. Sold only through authorized DYMO distributors. Dept. B (1)

DYMO CORPORATION FREE! SAMPLE TAPES AND BROCHURE WRITE TODAY!

2725 TENTH STREET BERKELEY 10, CALIFORNIA

▲ For more details circle NED-181 B on enclosed inquiry slip ▲

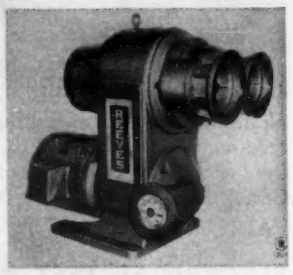
SPEED DETECTING SWITCH
one or two units housed in box



Predetermined speeds are detected accurate within 1 per cent by Synprotex speed detecting switches, now furnished in a stamped steel housing. This Style B box with wiring knock-outs and external mounting flange measures 2¾ x 4½ x 3 in. It is supplied with shaft length and diameter to order. Box accepts one or two speed detecting units, each with a high and low limit. Speeds from 500 to 4000 rpm can be detected. Units are actuated by speed alone, independent of voltage, load, or environmental conditions. Applications include overspeed and underspeed detection, signalling, sequencing, protection of equipment, and as safety devices. • **Torq Engineered Products, Inc.**, 32 W. Monroe St., Bedford, Ohio.

▲ For more details circle NED-182 B on enclosed inquiry slip ▲

TEST STAND DRIVES
offered with various controls for generators, pumps, and engines



Sizes from 15 to 40 hp are available in a line of test stand drives which simulate actual operating conditions for testing generators, pumps, and engines. By changing the belt operating diameter in the two sets of cone-shaped discs, an infinitely adjustable output speed is obtained. Sizes from 15 to 25 hp have a 6:1 speed variation within limits of 1000 to 11,600 rpm. Sizes from 30 to 40 hp have a 4:1 speed range from 1595 to 11,600 rpm.

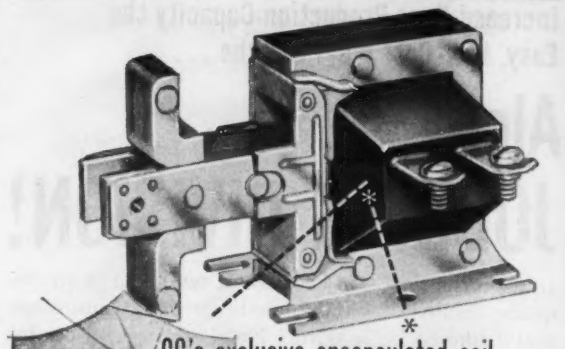
Drives have single or dual output shafts having a 5 or 10-in. bolt circle generator mounting pad. Drives with output shaft above the motor, output shaft and motor on same side of belt case, or shaft and motor on opposite side of the case are offered with an indicator handwheel control. Remote or automatic controls are available. • **Reliance Electric & Engineering Co.**, Reeves Pulley Div., 1225 Seventh St., Columbus, Ind.

▲ For more details circle NED-183 B on enclosed inquiry slip ▲

Torque Converters

Clark Equipment Co., Automotive Div.—Input of 14, 15, and 16-in. industrial torque converters varies from 400 to 775 lb-ft with multiplication ratios from 2.5:1 to 3.1:1. Power curves for each model are presented in 4-page Bulletin FFS-5, along with descriptions of clutch controls, reduction drive, and other optional equipment.

▲ For more details circle NED-184 B on enclosed inquiry slip ▲



Moisture Impurities Fire

CC's exclusive encapsulated coil protects double T solenoids against...

FIRE, MOISTURE, ACIDS, OILS AND HARMFUL ALKALIES — All CC solenoids are now furnished with encapsulated coils produced by an exclusive CC process — a process that coats all coil windings and terminals with a heavy, shock-resistant layer of EPOXY. This protection plus the inherent performance superiority of CC double T plunger construction makes this solenoid the most efficient on the market. Write today for Bulletin SL-23 and find out how four sizes satisfy virtually any solenoid application.

CONTROLS COMPANY OF AMERICA
9577 Soreng Ave., Schiller Park, Illinois
Controls That Make Modern Living Possible

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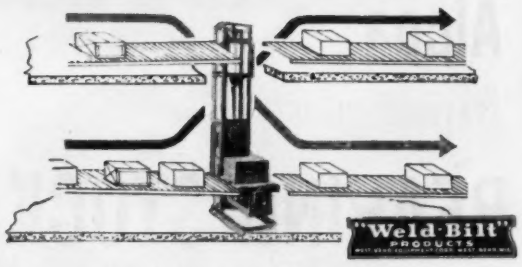
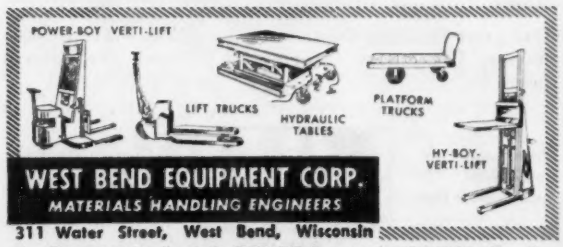
DOUBLE your floor-to-floor Traffic-Handling Speed with Weld-Bilt "Criss-Cross" Automatic Lift Unit



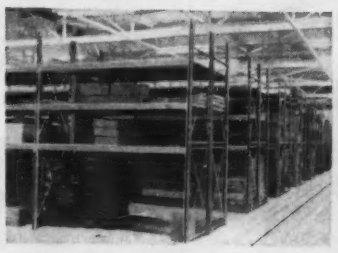
This *single* Weld-Bilt Automatic Conveyor-Lift Elevator — plus two powered Feed Conveyors and two powered Discharge Conveyors — handles, automatically, a greater capacity than two ordinary freight elevators . . . and at much lower cost! Automatic "memory" controls do all the work. Operators merely keep conveyors filled at loading stages. Easily adapted to completely automatic conveyorized feed of unit loads with synchronized loading and discharge at each floor. Get the whole story now. Write for bulletin E-557.



WEST BEND EQUIPMENT CORP.
MATERIALS HANDLING ENGINEERS
311 Water Street, West Bend, Wisconsin

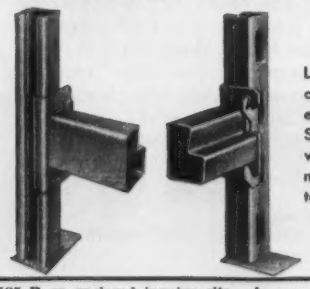
▲ For more details circle NED-187 B on enclosed inquiry slip ▲

10 VALID REASONS why you should buy



American Slide-n-Lock adjustable STORAGE RACKS

1. **American Stringers are one-piece**—made of durable, continuous welded steel tubing, made from high carbon steel.
2. **American Stringers have step construction** for fast, simple conversion to decking—step is 1⅝" deep—thickness of finished 2" lumber.
3. **American Posts are rugged**—made from extra heavy gage steel—roll formed by special tooling.
4. **American has positive double-wedging lock**—safe-t-pin gives positive security against unhooking stringers.
5. **American has smooth, aisle-side construction**—no protrusions of any kind to tear clothes or create a safety hazard.
6. **American has higher safety factors**—2.25 to 1—for greater protection to truck operators and merchandise.
7. **American Racks are easy to erect**—no costly bolting—all parts hook into place.
8. **American Racks are easy to adjust**—all stringers can be moved independently of any other part.
9. **American Upright Frames are cross braced** against sway—turnbuckles provide ready take-up for uneven floors.



10. Left—smooth line construction of aisle side of post and stringer eliminates hazardous protrusions. Stringers raise and lower like a window. Right—note rigid connection when stringer is "locked" to post.

AMERICAN METAL PRODUCTS CO.
STORAGE RACK DIVISION
5977 Linsdale Ave. amp Detroit 4, Michigan

Manufactured in Canada by Sunshine-Waterloo Co., Ltd., Waterloo, Ontario

send for catalog

▲ For more details circle NED-185 B on enclosed inquiry slip ▲

NEW from DELTA

20" metal-wood *Variable Speed* BAND SAW

Now you can have the Band Saw features you said you wanted most—*and for less than $900!* This all-new Delta Band Saw (shown with optional blade welder) gives *greater accuracy, better cutting performance* with:

WIDE RANGE VARIABLE SPEED DRIVE—50 to 4500 FPM—cuts stainless steel, aluminum, wood, plastics.

SCIENTIFICALLY DESIGNED BLADE GUIDES—give maximum blade support for heavy metal cutting.

RUGGED FRAME CONSTRUCTION—massive, rigid internal frame with modern fabricated exterior.

SEE IT AT YOUR NEAREST DELTA DEALER—he's listed under "TOOLS" in the Yellow Pages—or write: Rockwell Manufacturing Company, Delta Power Tool Division, 626B N. Lexington Ave., Pittsburgh 8, Pa.

DELTA INDUSTRIAL TOOLS
another fine product by
ROCKWELL

▲ For more details circle **NED-188 B** on enclosed inquiry slip ▲

METER YOUR FURNACES TO CONTROL QUALITY AND COSTS

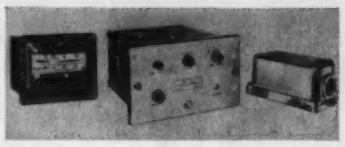
When you process with gas, meter records will quickly uncover combustion deficiencies that affect the quality of your end product. Meters standing guard at every burner will discourage waste. And only from metered records can you arrive at accurate costs.

Why don't you investigate the advantages of metering your furnaces, kilns or ovens? Write for bulletin 1085. Rockwell Manufacturing Company, Pittsburgh 8, Pa. In Canada: Box 420, Guelph, Ontario.

GAS METERS
another fine product by
ROCKWELL

▲ For more details circle **NED-189 B** on enclosed inquiry slip ▲

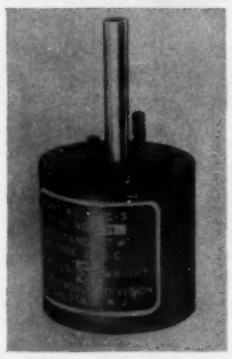
INFRARED THERMOMETER measures and controls temperature



Using infrared detection, the Thermodot radiation thermometer (radiometer) automatically measures and controls temperature of moving or stationary objects without physical contact. Typical use is in checking the temperature of inaccessible product surfaces. Other uses include nondestructive testing and assembly-line inspection. Sensitivity is about 7° at 2000° F, and response is rapid, accurate, and continuous. Infrared sensor is sealed within an optical head small enough to bolt onto any surface at a given working distance. Unit has a 400 to 2000° F range, and is unaffected by ambient variations from 20 to 120° F. • **Radiation Electronics Co.**, 5600 W. Jarvis Ave., Chicago 48, Ill.

▲ For more details circle **NED-190 B** on enclosed inquiry slip ▲

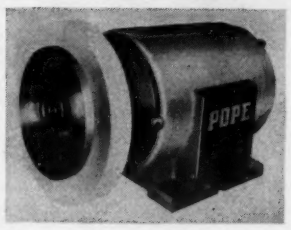
ROTARY SOLENOID meets military, commercial uses



No axial movement of shaft is associated with the rotary motion of this 2-oz, shock and vibration resistant, rotary solenoid for both military and commercial uses. Energizing the field coils produces rotary motion of the armature which is then spring returned. Armature rotates between two stops, clockwise or counterclockwise, with movement accurate to within 1 degree. Mechanically, the standard angular movement is 35 degrees. A 40-degree movement or less is available. Price ranges from $15 to $150. • **Curtiss-Wright Corp.**, Electronics Div., 620 Passaic Ave., Caldwell, N. J.

▲ For more details circle **NED-191 B** on enclosed inquiry slip ▲

PRECISION MOTORS 1 to 20 hp, 900 to 3600 rpm ratings



Dynamic balancing to 0.000025 in. amplitude of vibration and maximum shaft runout of 0.00005 in. are built into this line of custom-built precision motors, offered in NEMA frame sizes. They are designed for precision drive applications and are available with 1 to 20-hp, 900 to 3600-rpm ratings, and with straight or tapered noses. Permanently preloaded roller and ball bearings are used. Motor for a grinding application is shown with a Pope balancing type wheel holder. • **Pope Machinery Corp.**, 261 River St., Haverhill, Mass.

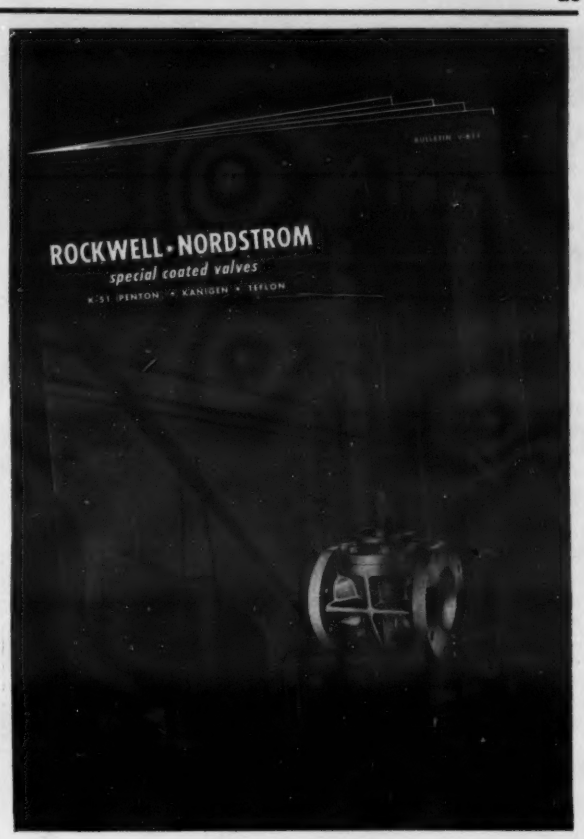
▲ For more details circle **NED-192 B** on enclosed inquiry slip ▲

Meters will solve your liquid handling and accounting problems

With Rockwell meters and the records they provide, you can guard your valuable liquids against waste and loss. You can use them with profit to cut liquid handling and process time; to assure uniformity of batch mixing. Many use liquid meters for inventory and cost controls—even tax analysis purposes. Let us prove that modern meter methods can save important money for your company. Remember, if you can pour it or pipe it, Rockwell can meter it. Write for bulletins. Rockwell Manufacturing Company, Pittsburgh 8, Pa. In Canada: Rockwell Manufacturing Company of Canada, Ltd., Guelph, Ontario.

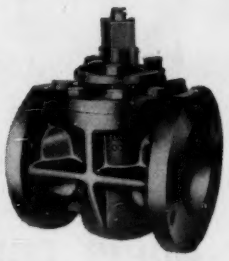
INDUSTRIAL METERS
another fine product by
ROCKWELL

▲ For more details circle **NED-193 B** on enclosed inquiry slip ▲



Get this NEW BOOKLET on ROCKWELL—NORDSTROM Valves with Teflon Coated Plugs

Rockwell-Nordstrom standard pattern valves with Teflon coated plugs are now available for use where infrequent or inadequate plug valve lubrication might be expected. The coating of tough Teflon gives added lubricity to the plug for longer valve life and easier operation. For complete information on Teflon, as well as corrosion resisting K-51 (Penton) and Kanigen coatings, write for the new booklet on special coated valves to: Rockwell Manufacturing Co., Pittsburgh 8, Pa. Canadian Valve Licensee: Peacock Brothers Limited.



ROCKWELL-Nordstrom VALVES
another fine product by
ROCKWELL

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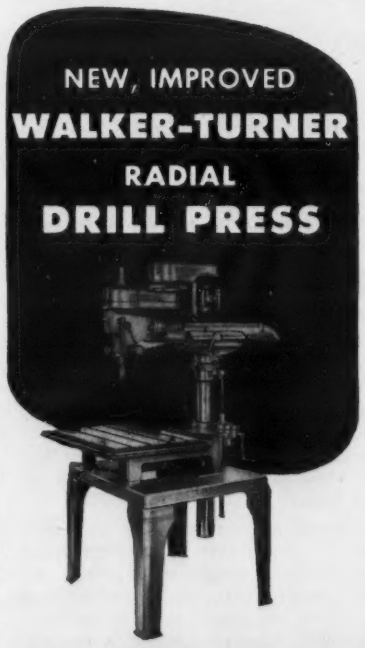
NEW, IMPROVED
WALKER-TURNER RADIAL DRILL PRESS



- **STRONGER**
- **MORE VERSATILE**
- **EASIER TO OPERATE**

With its all-new, heavy-duty head assembly, the improved Walker-Turner radial drill press *offers all the ruggedness, versatility and efficiency of larger machine tools costing several times as much.*

Available in 24 models with either 4¼" or 6" spindle travel.

FREE CATALOG—write to Rockwell Manufacturing Company, Walker-Turner Division, WB-45 N. Lexington Ave., Pittsburgh 8, Pennsylvania.

WALKER-TURNER "LIGHT-HEAVYWEIGHT" MACHINE TOOLS
another fine product by
ROCKWELL

▲ For more details circle **NED-195 B** on enclosed inquiry slip ▲

Hints on fluorescent starter selection

YOU CAN USE STANDARD 40W LAMPS IN COLD AREAS WITH G-E FS-44 STARTERS

General Electric FS-44 thermal-switch type starters will start standard 40W preheat lamps reliably at low ambient temperatures — down to 0 F because the preheat time they provide remains constant. Standard glow-switch type starters, under these conditions, require specially-designed low-temperature service lamps for satisfactory operation.

To get more money-saving hints, ask your G-E distributor for the "G-E Starter Selection Chart and Maintenance Guide for Fluorescent Lighting." General Electric Company, Wiring Device Department, Providence 7, Rhode Island.

GENERAL ELECTRIC

▲ For more details circle NED-196 B on enclosed inquiry slip ▲

"Bug duster" augers used on a coal cutting machine to remove fine coal cuttings.

Auger conveyor lasts 6 times longer when hardfaced with KENFACE*

When this conveyor auger has to be changed . . . production stops. After just five weeks' operation, severe abrasion wears down the end of steel augers as shown at left above. (The dotted line indicates original dimension). Searching for a way to extend auger life, the company decided to try Kenface as a hardfacing. An auger made from the same steel was Kenfaced on the first half turn of the scroll face and rim. *The photograph at right above was taken after 32 weeks of operation.*

Kenface is composed of the same basic materials used in long-wearing Kennametal tungsten carbide metal-cutting and mining tools. Prepared in granular form, it is packed in a steel tube in the weight ratio of 60% filler to 40% tube steel. This filler alloy has been developed to give optimum wear resistance by providing a structure of tungsten carbide particles firmly bonded to a matrix hardened by the partial solution of carbide from the rod.

Kenface has high resistance to abrasion, erosion, impact and thermal shock. Application of bead or wash pass may be made by any of the three common hardfacing methods: Oxy-Acetylene, Carbon Arc or Inert-Gas Metal-Arc Welding.

Wide applications have been found for this new hardfacing material. If you have a wear problem with parts made from steel, applying Kenface by normal welding procedures may be the answer. Send today for literature, prices, suggested uses and details about application methods and performance results. KENNAMETAL INC., Dept. NED, Latrobe, Penna.

9-7267

*Trademark

KENNAMETAL

▲ For more details circle NED-197 B on enclosed inquiry slip ▲

SUBMINIATURE PILOT LIGHTS are water-tight on face of panel

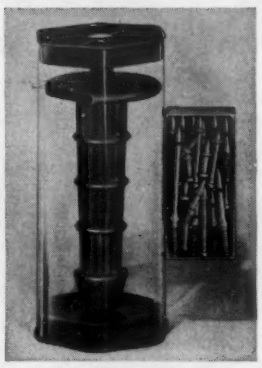
Measuring only 1 7/64 in. long and mounting water-tight in a 15/32-in. diameter hole from the front of the panel, subminiature pilot lights are fully insulated.

(Actual size)

Two terminals are provided for electrical connection. They accommodate T - 1¾ midget flange-base incandescent lamps with 1.3 to 28-v ratings. Assemblies meet military specifications, afford all-angle visibility, and have transparent or translucent heat-resistant plastic caps in clear or any of six colors. • Dialight Corp., 60 Stewart Ave., Brooklyn 37, N. Y.

▲ For more details circle NED-198 B on enclosed inquiry slip ▲

STUD DRIVING TOOL anchors pins in steel and masonry



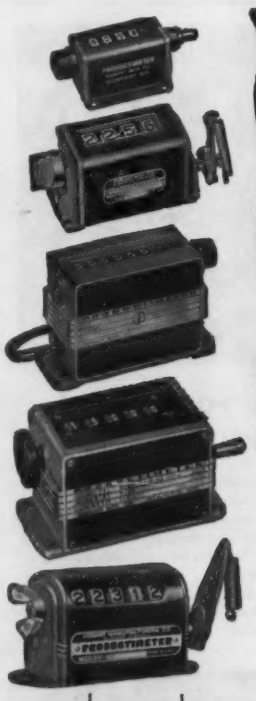
Fastway Jr. Ham-R-Tool kit consists of an 11-size assortment of threaded and plain stud pins and the Fastway Jr. driving tool. The sharp, heat treated, plated pins in ¼-20, 10-24, and 8-32 sizes are driven by the two-part tool without changing barrels with a few hammer blows. Studs are driven into concrete, concrete block, mortar, brick, or steel without drilling. Price is $7.98. • Fastway Fasteners, Inc., 1676 E. 28th St., Lorain, Ohio.

▲ For more details circle NED-199 B on enclosed inquiry slip ▲

PHOSPHATE FEEDER controls water well impurities

Water-borne mineral impurities are controlled in water well systems with this 5-lb capacity phosphate feeder. Poly-phosphate crystals can be poured directly into feeder through its large diameter top opening. Amber-tinted Plexiglas cylinder affords full view of crystal content. Turn of dual-purpose valve control shuts off water line pressure into the feeder, and at the same time, permits water to bypass it. Normally installed in the main water line before the water storage tank, feeder can also be converted for by-pass jet pump applications. • Clayton Mark & Co., 1900 Dempster St., Evanston, Ill.

▲ For more details circle NED-200 B on enclosed inquiry slip ▲



COUNTING the pulse of INDUSTRY

Productimeters register accurate count of every unit processed . . . eliminate profit-eating losses . . . insure economical plant operation and maximum use of man-hours. There's a size and style to suit every need.

Send for Catalog No. 200

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Milwaukee 1, Wis.
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Representatives in Principal Cities

DURANT MANUFACTURING COMPANY

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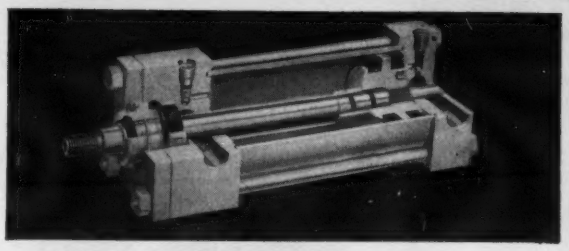


NEW! SCHRADER SQUARE-END CYLINDERS

meet and exceed **JIC** specs.....
250 psi air.....750 psi hydraulic

New Schrader Square-End cylinders give you compact, versatile, straight-line power. Use these double-acting cylinders for holding, positioning, moving work. Use them to push, pull or lift. Use them to automate manual operations.

In five sizes up to 4-inch bore, with four interchangeable mountings. This new Cylinder series will mount five ways: bolt, leg, flush, side-flush and base. Available cushioned or non-cushioned.

Write for your FREE copy of new JIC Cylinder catalog insert. Complete stocks are now available locally, plus expert help with your air control hookups.

Schrader a division of SCOVILL

A. SCHRADER'S SON
Division of Scovill Manufacturing Co.
459 Vanderbilt Ave., Brooklyn 38, N. Y.
QUALITY AIR CONTROL PRODUCTS

▲ For more details circle NED-202 B on enclosed inquiry slip ▲

"Best Suited" for HIGH TEMPERATURES

VARGLAS SILICONE
CLASS H
TUBING and SLEEVING

for applications requiring prolonged heat endurance at temperatures up to 260°C.

Varglas Silicone tubing and sleeving were developed by Varflex for applications involving continuous operating temperatures up to 260°C. Exceptional stability is combined with the following qualities . . .

Flexibility—Sharp turns and 90° bends cause no cracking or peeling—no loss of dielectric strength.

Dielectrically-Strong—All Grades conform to NEMA and MIL-I-3190 Standards.

Moisture-Resistant—including resistance to salt water, mild alkalis and acids.

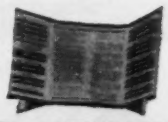
Flame-Resistant—Standard burning test is 45 seconds to burn 1 inch. Can be made self-extinguishing on special order.

Cold-Resistant—Excellent resistance to chafing and abrasion, flexible to —35°C.*

**For temperatures down to —65°C., and for applications requiring extraordinary flexibility, we recommend our new Varglas Silicone Rubber sleeving and tubing. Inquiries invited.*

Varflex CORPORATION

Send for FREE SAMPLES
Write today for free folder containing 25 different test samples of Varflex insulating sleeving, tubing, lead wire and tying cord.



VARFLEX SALES CO., INC., 310 N. Jay St., Rome, N. Y.

▲ For more details circle NED-203 B on enclosed inquiry slip ▲

TRIAL SAMPLE

Of World-Famous WHITMORE'S Lubricants NOW IN AEROSOL SPRAY-ON CANS!

WIRE ROPE SPRAY LUBRICANT

Exclusive formulas for lubricating and protecting wire rope, chain, springs. Penetrates to the core of wire rope minimizing internal friction and increasing usable life up to 300% —special protective qualities absolutely eliminate corrosion—non-gumming qualities reduce "carry-back"—packaged in handy 16 oz. aerosol spray-on containers or in bulk containers—send for a free trial sample.

65 YEARS OF LEADERSHIP
LUBRICATING THE FOLLOWING:

- Open Gears, Dipper Sticks, Cams
- Hydraulic Units, Torque Converters
- Speed Reducers
- Enclosed Gear Cases
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- Wire Rope and Cable

Est. 1893
THE WHITMORE MANUFACTURING CO.
LUBRICATING ENGINEERS
CLEVELAND 4, OHIO, • VULCAN 3-7272

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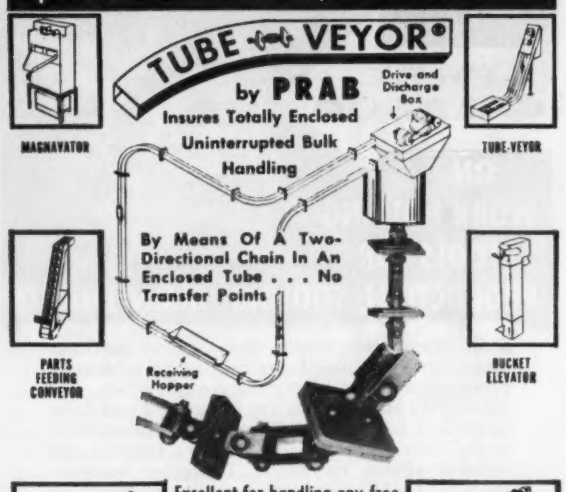
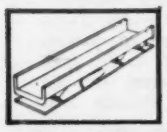
PRAB PRECISION ENGINEERED
Specialized CONVEYING EQUIPMENT




VIBRATING CONVEYOR

Excellent for handling any free flowing materials: Chips, sludge, sand, flour, shot, coal, etc. . . . can be moved most efficiently with TUBE-VEYOR.

STEEL BELT CONVEYOR

SEND FOR CATALOG #600
Representatives in Principal Cities

PRAB CONVEYORS, INC. PRAB Products Mfd. under Pats.
30119 GROESBECK HWY. ROSEVILLE (Detroit) MICH

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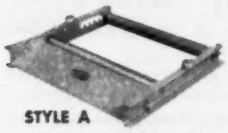
LET ROLL-A-REEL ROLL THE LOAD

Load cable, wire, rope or anything on reels onto Roll-A-Reel for easy, smooth pay-out or take-up.

- Easily portable
- No jacks
- Handle any reel diameter
- Heavy steel frame
- Slanted front
- Ball-bearing, adjustable rollers
- Positive roller lock for unloading


STYLE A
2,000 lbs. cap. for reels up to 28" wide. Weight 60#.
PRICE $46.50
f.o.b. Cincinnati

STYLE B
4,000 lbs. cap. for 1 reel up to 48" wide; or for 2 reels up to 24" wide each. Weight 110#.
PRICE $84.50
f.o.b. Cincinnati

• Special sizes on request.

ROLL-A-REEL 4626 Reading Road Cincinnati 29, Ohio

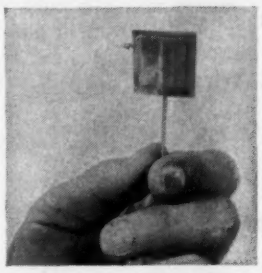
▲ For more details circle NED-206 B on enclosed inquiry slip ▲

PLATFORM LADDER has antislip platform

Abrasive, antislip surface of the platform of this Master platform ladder makes it practically impossible for worker's shoes to slip, even when wet, greasy, or soiled. The Sure Foot platform is made of knurled aluminum hat section which is formed on one operation to keep cost down. • **Louisville Ladder Co.**, 1101 W. Oak St., Louisville 10, Ky.

▲ For more details circle NED-208 B on enclosed inquiry slip ▲

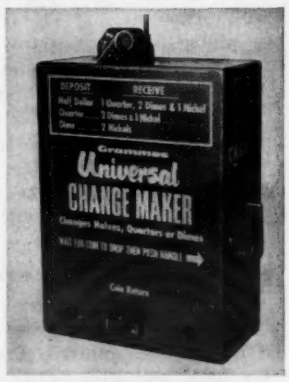
TEMPERATURE SENSOR 500° F model is self-adhering



Weighing less than 4 grams, including 36-in. Teflon-insulated leads, Thermal-Ribbon Models S8A and S8B accurately sense temperatures from −76 to 500° F in instrumentation and temperature control. Both models are 1¼ in. square by 0.050 in. thick, and can be applied to curved or flat surfaces. Model S8B is self-adhering after removing its protective backing. Model S8A is furnished with pressure-sensitive installation tape, or can be cemented or held mechanically in place. Prices range from $19.80 for single units to $11.90 for 51 to 100 units. • **Minco Products, Inc.**, 740 Washington Ave. N., Minneapolis 1, Minn.

▲ For more details circle NED-209 B on enclosed inquiry slip ▲

CHANGE MAKER for halves, quarters, and dimes



Drop a half-dollar, quarter, or dime in the single insert slot of this Universal change maker, push the handle, and the correct change is vended. The burglarproof unit is made of ⅛ in. thick welded steel, is equipped with National slug rejectors, and will hold 130 quarters, 520 dimes, and 520 nickels. It can be mounted on wall or counter and weighs 53 lb. Self-contained levels simplify leveling up when machine is installed. List price is $150. • **L. F. Grammes & Sons, Inc.**, Allentown, Pa.

▲ For more details circle NED-210 B on enclosed inquiry slip ▲

SERVICE FOR YOUR B&D TOOLS

Check the Yellow Pages under "Tools-Electric" for the location of the nearest Black & Decker factory service branch or authorized service station.

Free tool inspection when requested • Genuine B&D parts used • Factory-trained technicians • Standard B&D Guarantee at completion of recommended repairs • Fast service, reasonable cost, always.

Or write for address of nearest of more than 50 branches and service stations to: THE BLACK & DECKER MFG. CO., Dept. 1902-S, Towson 4, Md.

Black & Decker

QUALITY TOOL SERVICE

▲ For more details circle NED-211 B on enclosed inquiry slip ▲

THE GENERAL TIRE

With a wide-base design for every application, General Pneumatics assure low-cost, long-run operation on every job. Generals safety-cushion equipment and loads, protect floors, increase load capacity. What's more their high flotation means easier rolling. Check the entire line for the General Pneumatic to suit your product.

Available separately or in assemblies of tires, tubes and wheels. Size O.D.8" to 35"—200 to 7890 lbs. capacity for low or high speeds.

Send for Catalog, Dept. 4

THE GENERAL TIRE & RUBBER CO.
AKRON, OHIO

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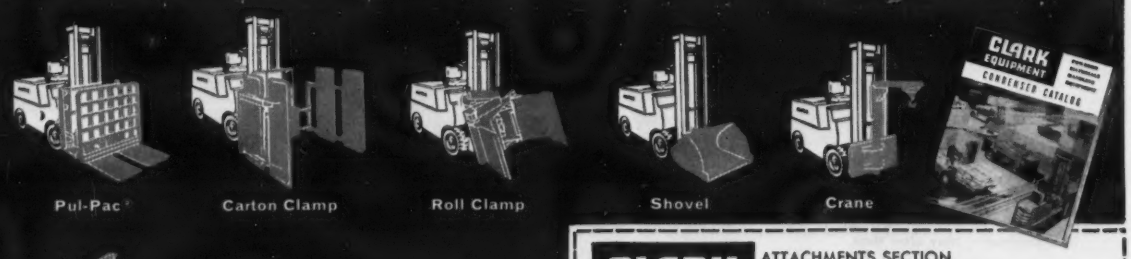
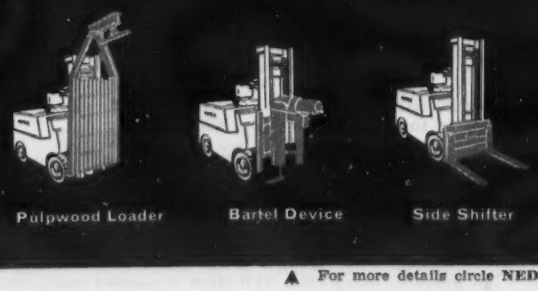
Take full advantage of your equipment—

Clark Attachments are application engineered for your *specific* operations

Wide-Spread Clamp Ram



Pul-Pac Carton Clamp Roll Clamp Shovel Crane


Pulpwood Loader Bartel Device Side Shifter

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ATTACHMENTS SECTION
Industrial Truck Division
CLARK EQUIPMENT COMPANY
Battle Creek 21, Michigan

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Address_____
City_____ Zone_____ State_____

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NEW idea book on Monorail handling systems for...

FACTORIES • FOUNDRIES • LAUNDRIES • PACKERS • PAPER MILLS • TEXTILE MILLS • AUTO PLANTS • WAREHOUSES • OTHERS

SEND TODAY!

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AMERICAN MONORAIL 1116 E. 200th STREET CLEVELAND 17, OHIO

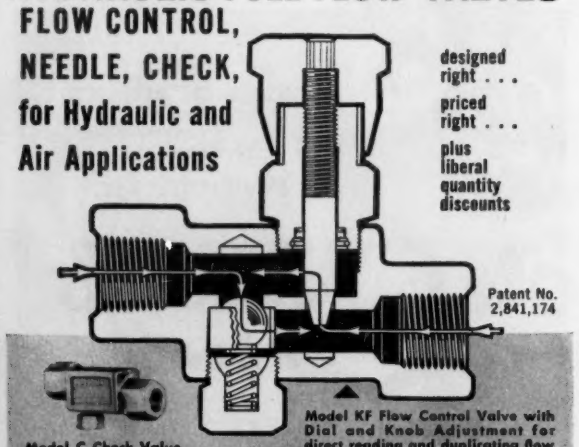
▲ For more details circle NED-213 B on enclosed inquiry slip ▲

AUTO-PONENT®

HYDRAULIC *FULL FLOW* VALVES

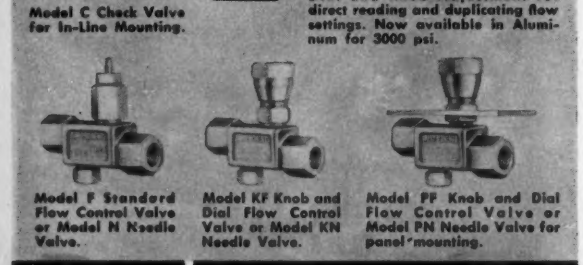
FLOW CONTROL, NEEDLE, CHECK, for Hydraulic and Air Applications

designed right . . . priced right . . . plus liberal quantity discounts



Model KF Flow Control Valve with Dial and Knob Adjustment for direct reading and duplicating flow settings. Now available in Aluminum for 3000 psi.

Model C Check Valve for In-Line Mounting.



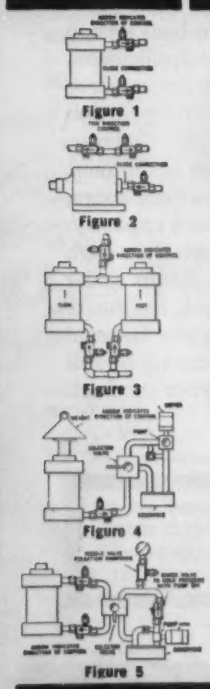
Model F Standard Flow Control Valve or Model N Needle Valve.

Model KF Knob and Dial Flow Control Valve or Model KN Needle Valve.

Model PF Knob and Dial Flow Control Valve or Model PN Needle Valve for panel mounting.

TYPICAL APPLICATIONS

A complete line: 1/8", 1/4", 3/8", 1/2", and 3/4" female Dryseal Pipe Sizes in all models and types. Equivalent Aeronautical Tube Sizes on special order.



MINIMUM PRESSURE DROP AND POWER LOSS . . . Oversize ports and passages give maximum flow at minimum pressure drop, insure accuracy and response in hydraulic or large volume air cylinder control.

EASY FLOW ADJUSTMENTS under full pressure. Seal located at port to eliminate air or dirt traps. Gland structure equally effective on pressure or vacuum.

SENSITIVE, CHATTERLESS BALL CHECK . . . Patented design insures rapid ball movement to open or close at low differentials.

FORGED BODIES permit higher pressures with wide safety margins. Aluminum – 3000 psi; Steel and Stainless Steel – 5,000 psi. Pressure ratings based on better than 5 to 1 safety factor. All internal parts are Stainless. Write for illustrated catalog.

Fig. 1—**SPEED CONTROL** for Double Acting Cylinders

Fig. 2—**SPEED CONTROL** for Single Acting Cylinders

Fig. 3—**SPEED CONTROL** . . . Cylinders in parallel

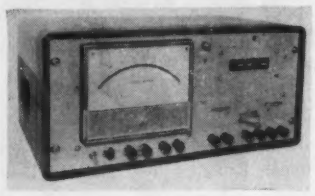
Fig. 4—**RETURN SPEED CONTROL**, typical hydraulic hoist

Fig. 5—**Various uses** of AUTO-PONENT Valves in hydraulic power systems

AUTOMATION AUTO-PONENTS INC. COMPONENTS 2929 GRANT STREET BELLWOOD (Chicago Suburb) ILLINOIS

▲ For more details circle NED-214 B on enclosed inquiry slip ▲

ELECTRONIC WATTMETER provides resolution down to 0.01 per cent of rated input



Measurements at sustained accuracy and resolution down to 0.01 per cent of rated input are made by Model 1483 electronic wattmeter. It can be used to actuate digital meters and remote indicating direct-current milliammeters and to drive strip-chart recorders. The sensing element is subjected to small-amplitude vibration by a 200 kc exciting field contained in feedback system. This eliminates static friction, or need for tapping.

Current coils can be overloaded by as much as 400 per cent without degrading accuracy. Wattmeter ranges are 250/500/1000 w. Input is 5 amp normal and 10 amp maximum, with potential of 50/100/200 v normal and 75/150/300 v maximum, and outputs of 1 ma in a maximum output burden of 5000 ohms (5 v). Frequencies are 40 to 1000 cycles ac and dc. • **Daystrom, Inc.**, Daystrom-Weston Sales Div., 614 Frelinghuysen Ave., Newark 12, N. J.

▲ For more details circle NED-215 B on enclosed inquiry slip ▲

ENCLOSED SWITCH has adjustable actuator

Fast or slow cams and slide actuating devices will operate the basic Model 2HB-5 Unimax single-pole double-throw snap-acting switch, offered with die cast aluminum housing and sealed over-travel plunger. Arm of the roller-level actuator is adjustable through 240 degrees around its shaft. The actuator bracket can be rotated around the plunger and locked in any of eight positions 45 degrees apart. Switch has a moisture, dust, and oil resistant neoprene boot and neoprene gaskets. A ½-in.-14 internally threaded nut permits installation in conduit systems. Two side-mounting and one base-mounting styles are offered. Basic switch is UL-listed at 20 amp, 125/250/280 v ac. • **W. L. Maxson Corp.**, Unimax Switch Div., Ives Road, Wallingford, Conn.

▲ For more details circle NED-216 B on enclosed inquiry slip ▲

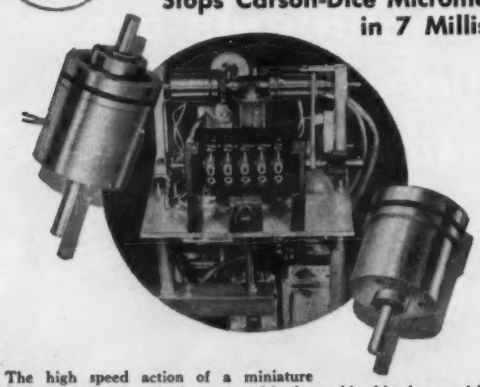
Storage Rack Applications

Storage Products Corp.—The dozen or more photos of recent material storage rack installations reproduced in folder 5981 illustrate space and labor saving racks for tools and dies, furniture, food products, wet produce, plywood, auto trim materials, bulk carpeting, and palleted merchandise.

▲ For more details circle NED-217 B on enclosed inquiry slip ▲

Simplatrol MINIATURE ELECTRIC BRAKE

Stops Carson-Dice Micrometer in 7 Millisec.



The high speed action of a miniature Simplatrol clutch and relay-actuated brake enable this ultra-sensitive micrometer to measure, without pressure, to 10 millionths of an inch accurately, time after time.

Precision applications such as this are typical of the vital roles that Simplatrol clutches and brakes are playing today in electronics and automation. The reason for Simplatrol's success is its simplicity. A patented diaphragm is the only moving part. Wherever clutching and braking must be compact, long-wearing, swift, silent and accurate, Simplatrol assemblies are essential!

Find out how Simplatrol can solve your clutching and braking problems.

Write today for free literature.

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Representation in Key Industrial Areas

506-9

▲ For more details circle NED-218 B on enclosed inquiry slip ▲

WRITE NOW FOR THIS **FREE CATALOG** ON WORK HOLDING TOOLS FOR PRODUCTION, TOOLING, MAINTENANCE

Drill press vises, angle vises, swivel machine vises, rotary tables, lathe milling attachments, production vises, heavy duty angle vises, and adjustable angle plates are illustrated and fully described in the New Palmgren Catalog. This is the only complete line of work holding devices available anywhere. Designed for production, tooling, and maintenance work, there are 68 different models and types to choose from. Vise jaw sizes are from 1½" to 8". Ask for your copy of this FREE Catalog No. 205 today. The complete line with details and prices are shown.

PALMGREN PRODUCTS by CHICAGO TOOL AND ENGINEERING CO. 8378 SOUTH CHICAGO AVE. • CHICAGO 17, ILL.

▲ For more details circle NED-219 B on enclosed inquiry slip ▲

TRIPLE DUTY DIAL

The Taylor 6" Dial Indicator can be used for any of three process variables:

• **Temperature**—With mercury, vapor, gas, or organic liquid actuation. Ranges minus 125°F. to 1200°F.

• **Pressure**—Range spans from 12 psi to 20,000 psi, using Bourdon springs or C springs.

• **Load**—Standard tension and compression load elements are incorporated to use a mercury Bourdon spring.

Accurate, dependable, fume and moisture-proof case may be face or flush mounted, on panel or field case. **Optional electric alarm mechanisms.**

Ask your Taylor Field Engineer, or write for **Bulletin 98214.** Taylor Instrument Companies, Rochester, N.Y., or Toronto, Canada.

Taylor Instruments MEAN ACCURACY FIRST

▲ For more details circle NED-220 B on enclosed inquiry slip ▲

DATA you need

to select improved valves for your pumps

Famous for sustained efficiency under widely varied service conditions, DURABLA Pump Valve Units have been redesigned to incorporate a new taper-lock* stud, self-locking nut and drop-on guard. This improved design offers *seven new points of superiority.*

The booklet shows how DURABLA Pump Valve Units can benefit your pumps. Includes design details, materials available, table of seat sizes and dimensions. Send for free copy of Form 400 NED20.

DURABLA MANUFACTURING COMPANY

114 Liberty Street, New York 6, N. Y.

*Patent Pending **DURABLA®** DM-29

▲ For more details circle NED-221 B on enclosed inquiry slip ▲

Load Handling is Easy— Safe with COFFING...

Quik Lift

ELECTRIC HOISTS

It's easy to raise or lower loads while pulling a trolley mounted Coffing Quik-Lift Electric Hoist. The design of the pistol-grip control station and the combination strain and power cable makes this possible.

For safety the control station is made of non-conducting plastic in which the voltage is reduced to 115 volts. The V-type brake gives positive control of loads. Twenty models—¼ to 2 ton capacity. Ask your distributor or write for bulletin ADH-65.

COFFING HOISTS

DUFF-NORTON COMPANY

803 Walter Street • Danville, Illinois

For more details circle NED-222 B on enclosed inquiry slip

DINGS MAGNETIC SHEET FLOATERS

—Save Handling Time
—Cut Production Costs

Here's how to get faster, easier, safer handling of stacked steel sheets on hand feeding operations. Automatically separates top sheets in pile from those below...eliminates fumbling, protects dies, prevents scratching of finished surfaces. Helpers formerly needed to pry sheets apart now freed for other work.

DINGS MAGNETIC SHEET FLOATERS come completely enclosed in stainless steel to prevent damage to Alnico blocks or loss of magnetic efficiency through attraction of stray iron.

For more information write:

Dings

DINGS MAGNETIC SEPARATOR CO.
4758 W. Electric Ave.
Milwaukee 46, Wis.

For more details circle NED-223 B on enclosed inquiry slip

For protection against corrosion... protection against splashing liquids

WAGNER DP MOTORS

(Doubly Protected)

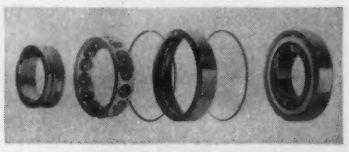
Use Wagner Doubly Protected Motors—with rugged, corrosion-resistant cast iron frames and dripproof enclosures—in spots that once required splashproof motors. Get longer motor life, more versatility of application. DP Motors are built in NEMA frame sizes 182 through 445U; RP Motors, in frames 504 and larger, are available in ratings through 1000 hp. All are available with either ball bearings or steel-backed babbitt-lined sleeve bearings. Contact the nearest Wagner branch office.

Wagner Electric Corporation WM60-6

6435 PLYMOUTH AVE., ST. LOUIS 33, MO.

For more details circle NED-224 B on enclosed inquiry slip

BALL BEARINGS
heavy duty, high capacity type



Split ball bearing, single fracture design of Type HDR high precision radial ball bearings gives them a high complement of balls and resultant high load capacity and minimum radial deflection. Full depth symmetrical raceways without loading slots carry thrust loads from either direction. Bearings are offered in ABEC-3 and ABEC-5 grades and in Extremely Light, Extra Light, Light, and Medium Series, in metric sizes up to 85-mm OD. Standard ring and ball material is 52100 steel. Four ranges of internal clearance offer a variety of operating characteristics to the designer. • **MPB, Inc.**, Split Ballbearing Div., Lebanon, N. H.

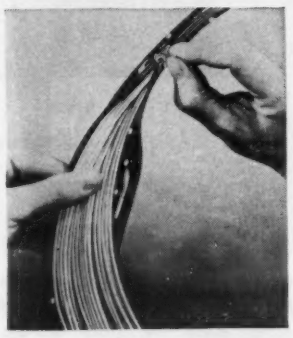
For more details circle NED-225 B on enclosed inquiry slip

TEMPERATURE CONTROL
remote unit has scales to 600° F

Stainless steel sensing element of the Type PC Chromatrol remote temperature controller is a 1-in. long, ¼-in. diameter pre-aged thermistor. The probe can be placed in platens, air ducts, or immersion wells up to 100 ft from the amplifier-relay cabinet and connected with light gage twisted wire. Control within 1° F up to 600° F is obtained. Loads up to 10 kw are controlled directly without a separate contactor. Control operates on 120, 208, or 240 v, 60 cycles, and has a dual range of 25 to 225° F and 200 to 600° F. • **Edwin L. Wiegand Co.**, 7500 Thomas Blvd., Pittsburgh 8, Pa.

For more details circle NED-226 B on enclosed inquiry slip

CLOSABLE WIRE TUBING
has perforations for wire harnesses



Perforations in Zippertubing are spaced so that wires can be snaked out wherever desired. It provides an easy means for branchouts in wire harnesses assemblies. Special perforation placement can be ordered without additional cost. Available in general purpose and military types, Zippertubing may be used as a raceway. Holes also allow drainage of moisture condensation. • **Zippertubing Co.**, 752 S. San Pedro St., Los Angeles 14, Calif.

For more details circle NED-227 B on enclosed inquiry slip

For the power you want... at the speed you need

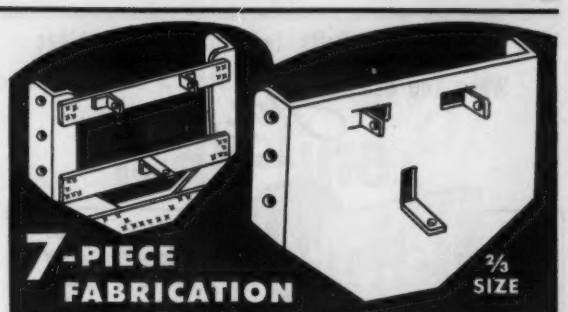
WAGNER GEARMOTORS

Use Wagner Gearmotors wherever you need "slower-than-motor speeds." Built to operate for years at peak efficiency, they have "high hardness" gears to provide greater power transmission capacity, longer wear life, greater resistance to shock. Motors and gear housings are of corrosion-resistant cast iron. Available with latest NEMA Frame open protected or totally enclosed fan-cooled motors. Contact your nearby Wagner branch, or write for Bulletin MU-227.

Wagner Electric Corporation WM60-8

6435 PLYMOUTH AVE., ST. LOUIS 33, MO.

For more details circle NED-228 B on enclosed inquiry slip



7-PIECE FABRICATION

2/3 SIZE

Redesigned to 1-Piece Stamping

Considerable costs were saved, plus improving appearance, by redesigning this seven-piece fabricated frame to a greatly simplified one-piece stamping. Spotwelding was eliminated. Exact duplication was achieved.

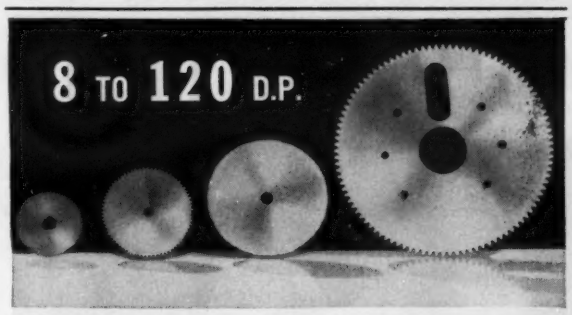
Got a fabrication problem? Chances are it can be solved with short-run stampings using the D-R method of utilizing temporary tooling. Send your print and/or sample, plus quantity, for prompt quotation. No obligation.

Bulletin F185 explains this highly efficient, specialized technique for cutting the work load and costs of metal fabricators. Send for it today.

DAYTON ROGERS Manufacturing Company

MINNEAPOLIS 7E, MINNESOTA

For more details circle NED-229 B on enclosed inquiry slip



LONG LIST OF STOCK GEAR DIES OFFERS YOU BIG SAVINGS!

ACCURATE STAMPED GEARS by *WINZELER* are BIG savers of time and money. Single stampings are laminated to wide faces at savings up to 60%! Further economies are made possible by a BIG range of *stock* Dies. Modern new plant, methods, and equipment now greatly increase production speed, efficiency and *economy!* Send blue prints. Tell us about your needs today. No obligation.

SEND FOR...

New list of WINZELER-made stock Gear Dies. Ask for it on company letterhead, *please!*

WINZELER Stamped Gears

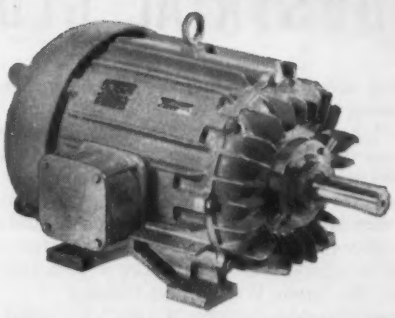
WINZELER MANUFACTURING & TOOL CO.
7355 W. WILSON AVENUE • CHICAGO 31, ILLINOIS

For more details circle NED-230 B on enclosed inquiry slip

For extra protection against corrosive, abrasive... or explosive elements

WAGNER TEFC MOTORS

Standard or explosion-proof



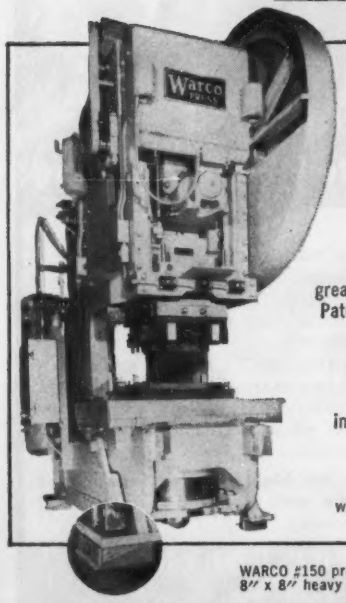
Wagner Type EP Motors offer protection against corrosion, dust, abrasives, fumes, steel chips or filings... deliver full-rated horsepower under toughest service conditions to keep production rates up. Type JP is explosion-proof as well. Built in NEMA frame sizes from 182 through 445U, with ribs that add mechanical strength and increase surface cooling area. Type YP and ZP, tube-ventilated motors, are available in higher hp ratings. Contact your nearby Wagner branch office.

Wagner Electric Corporation WM60-7

6435 PLYMOUTH AVE., ST. LOUIS 33, MO.

For more details circle NED-231 B on enclosed inquiry slip

No More Anchor Bolts to Hold Your Machines When You Use The Air-Loc® Method



Reduce machine sway with 100% contact between machine foot and mount.

You just set the machine on Air-Loc mounts and it operates without vibration and at a greatly reduced noise level. Patented Air-Loc grips the machine to the floor.

New WEDGMOUNT with Air-Loc on top and bottom provides instant precision leveling.

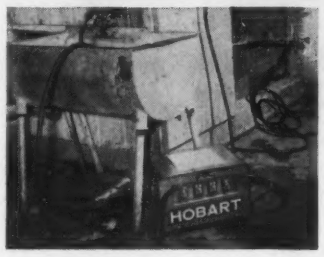
Send for the free bulletin which describes Air-Loc and WEDGMOUNT.

WARCO #150 press installed on four 8" x 8" heavy duty WEDGMOUNTs.

Clark-Cutler-McDermott Co.
103 W. Central Street • Franklin, Massachusetts

▲ For more details circle NED-232 B on enclosed inquiry slip ▲

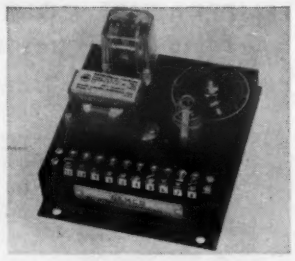
PIPE THAWING UNIT operates on 110 or 220-v ac



Plugged into any 110 or 220-v ac outlet, the Porta-Thaw transformer type pipe thawing unit is easily carried by one man. Output rating is 300 amp and 10 v. Output terminals are isolated from the power line, assuring safety in operation. In illustration, a 15-ft length of ¾-in. galvanized water pipe was thawed in 4 min. • Hobart Brothers Co., Hobart Square, Troy, Ohio.

▲ For more details circle NED-234 B on enclosed inquiry slip ▲

ELECTRONIC TIMERS have various delay periods, contacts



Time delay after de-energization (Type D) and time delay upon energization (Type E) are available in these electronic timers for machine tool and automation circuits. Type D units have time ranges from 0.06 sec minimum to 2.4 min maximum. Type E timers have a 0.05 to 2.4-min range. Double-pole double-throw, two normally-open and two normally-closed contacts provided have ratings of 5 amp, 115 v ac or 5 amp, 28 v dc. Supply voltage may be either 115 or 230 v, 60 cycle ac. Timers have open NEMA Type 1, 4, 7, or 12 enclosures. • Gemco Electric Co., 25685 W. Eight Mile Rd., Detroit 40, Mich.

▲ For more details circle NED-235 B on enclosed inquiry slip ▲

OPEN-END WRENCHES pawl provides ratchet action

Spring-loaded pawl inserted into one side of the open end allows the Wrenchking wrench to rachet smoothly without removing it from nut. The hardened tool steel pawl is subjected only to a compressive force as it slides against the flat wrench jaw. Wrench grips the nut at three points, and applies pressure only to the flat surfaces of the nut. It is especially effective on damaged nuts or bolt heads. The forged, hardened wrenches are offered in 7/16, ½, 9/16, ⅝, and ¾-in. sizes. The ¾-in. tool delivers in excess of 2060 lb-in. torque. • Royal Tools, Inc., 173 York St., Hanover, Pa.

▲ For more details circle NED-236 B on enclosed inquiry slip ▲

IT'S EASY TO STRIP OFF PAINT and Solve Your Stripping Problems with—

EPOXYSTRIP

PAINT STRIPPER—Saves Time and Money!

A new more powerful paint stripper that outstrips all others! No organic finishes have yet resisted this amazing paint stripper. It was especially formulated to remove epoxies . . . with the same ease that it removes baked enamels, lacquers, etc. No stripping scum—clean rinsing!

SEND FOR FREE BROCHURE

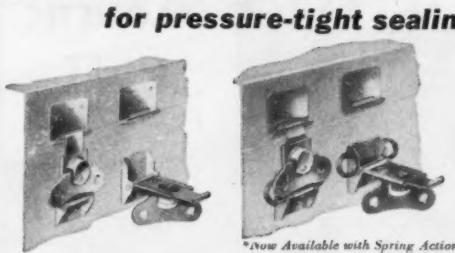
- EPOXYSTRIP WILL NOT HARM SOFT METALS
- ECONOMICAL—MORE JOBS PER GALLON AT LOWER COST
- NO SCRUBBING OR MANUAL ASSISTANCE
- RECOMMENDED BY LEADING FINISH MANUFACTURERS

JOBBERS: Beck EPOXYSTRIP sells on demonstration. Try it and see for yourself.

BECK EQUIPMENT COMPANY
3350 WEST 137th STREET — CLEVELAND 11, OHIO

▲ For more details circle NED-238 B on enclosed inquiry slip ▲

Look to LINK-LOCK* for pressure-tight sealing



*Now Available with Spring Action for greater mounting flexibility and automatic take-up . . . where desired.

Here's a positive-locking fastener you can use wherever preloaded closure is desired. Heavy pull-down pressure insures water-tight sealing when gaskets are used. Offered in three sizes, LINK-LOCK is compact, simple in design, economical. Open or closed, it always lies flat. Provides excellent impact and drop-test resistance, is trouble-free even at −70° F. A natural for instrument cases, storage boxes, etc. Write for samples and 40-page catalog.

SIMMONS FASTENERS
Quick-Lock · Spring-Lock · Roto-Lock · Link-Lock · Dual-Lock · Hinge-Lock

SIMMONS FASTENER CORPORATION
1793 North Broadway, Albany 1, N. Y.

▲ For more details circle NED-239 B on enclosed inquiry slip ▲

CUT GLOVE COSTS

GIVE ADDED PROTECTION with

JOMAC INDUSTRIAL GLOVES

Leading manufacturers everywhere are cutting costs and increasing worker-safety by changing to Jomac terry cloth work gloves. Jomacs are made of thick loop-pile fabric that cushions the hands, protecting them against sharp edges and rough surfaces. They are made from various weights of cloth for specific applications. Any two make a pair, since they are completely interchangeable, and they can be reconditioned time after time—will give extraordinary wear. Fill in the coupon below for more information and a free copy of the Jomac Work Glove Catalog.

Jomac also manufactures North PVC Coated Gloves and wet weather garments.

Jomac sells quality and quality sells Jomac

Plants in Philadelphia, Pa., and Warsaw, Ind.
IN CANADA: Safety Supply Company, Toronto

JOMAC INC., Dept. G ☐ Send a copy of your work glove catalog
Philadelphia 38, Pa. ☐ Have a representative call
Name
Company
Address
City State

▲ For more details circle NED-233 B on enclosed inquiry slip ▲

1265 VA from this small Variac®

In many VARIAC control applications, output voltages from zero to line-voltage only are required. In these cases the Type W5L VARIAC handles an extra 365 va of power over the standard Type W5. Intended for 60-cycle line voltages, it has all VARIAC features . . . exclusive DURATRAK brush-contact surface; low losses; moderate temperature rise; long, trouble-free life.

If you need to handle a lot of power in a small space look into the Type W5L VARIAC. Price: $17.50.

Write for the VARIAC Bulletin for complete data

GENERAL RADIO COMPANY
WEST CONCORD, MASSACHUSETTS

Broad Avenue at Linden, Ridgefield, N. J. NEW YORK AREA 1000 N. Seward St. LOS ANGELES 38 8055 13th St., Silver Spring, Md. WASHINGTON, D. C. 1150 York Road, Abington, Pa. PHILADELPHIA 1186 Los Altos Ave., Los Altos, Calif. SAN FRANCISCO 6605 W. North Ave., Oak Park, Ill. CHICAGO In CANADA: 99 Floral Parkway, TORONTO 15

▲ For more details circle NED-237 B on enclosed inquiry slip ▲

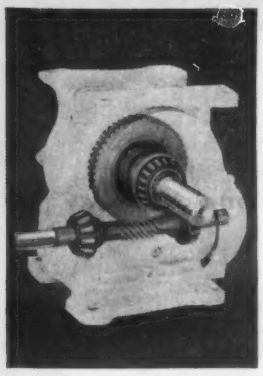
Get this Book NOW!

KEEP YOUR WOOD BLOCK FLOORS LIKE NEW

THE JENNISON-WRIGHT CORP., TOLEDO 9, OHIO

▲ For more details circle NED-240 B on enclosed inquiry slip ▲

NEW LINK-BELT UNIVERSAL worm gear speed reducers



- THREE MOUNTING POSITIONS
- MORE HP PER POUND, PER DOLLAR
- AVAILABLE FROM STOCK

In *all* ways, Link-Belt's new *Universal* sets the pace among worm gear speed reducers. With simple changes of oil gauge and breather, it can operate in three different positions. And its simple, compact design offers more usable hp in a smaller housing . . . holds down initial cost . . . minimizes mounting space.

Universal worm gear speed reducers are available in 2½, 3, 3½ and 4 inch centers with ratios of from 5-1/6 to 60 to 1.

FOLDER 2724 contains complete data. Write *LINK-BELT COMPANY*, Dept. NED, Prudential Plaza, Chicago 1, Illinois.

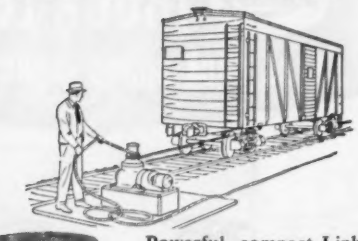
LINK-BELT

SPEED REDUCERS 15,023

▲ For more details circle NED-241 B on enclosed inquiry slip ▲

DOWN GOES DEMURRAGE

...with LINK-BELT car spotters



Powerful, compact Link-Belt car spotters speed positioning of cars for loading and unloading . . . minimize switching and demurrage costs. They put enough power in one man's hands to move 300 tons or six loaded freight cars. And operating costs are low, maintenance negligible.

Available *from stock* in 5- and 10-hp sizes, stationary and portable types, with integral or separate motors. 15,235

SEND FOR NEW BOOK 2892

LINK-BELT

CAR SPOTTERS AND CAR PULLERS

LINK-BELT COMPANY: Prudential Plaza, Chicago 1, Ill.

▲ For more details circle NED-242 B on enclosed inquiry slip ▲

HERE'S WHY

LINK-BELT CONVEYOR TROLLEYS

RIDE SMOOTHER . . . LONGER

1. **EXTRA-LONG LIFE** results from carburizing and heat treating wheels, machined from steel tubing.
2. **FRICTION IS MINIMIZED** because cages space steel balls accurately.
3. **FREE-ROLLING ACTION AND HIGH CAPACITY** are benefits assured by precision-ground raceways.
4. **PRESS-FITTING** of bolts or rivets is another long-life feature.
5. **NO WHEEL "WOBBLE"**. Forged steel brackets provide strength to keep trolleys aligned.

15,005

LINK-BELT

BALL BEARING CONVEYOR TROLLEYS

LINK-BELT COMPANY, Prudential Plaza, Dept. NED, Chicago 1, Ill.

NEW TROLLEY BOOK 2636 is now available. Send for your copy today.

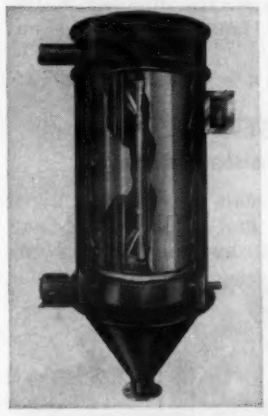
▲ For more details circle NED-243 B on enclosed inquiry slip ▲

PORTABLE PYROMETER has −40 to 200° F range

Two scales or arcs of the Alnor 2300-B portable indicating pyrometer afford scale divisions down to 1° F which can be read to the nearest ½° F. Pyrometer is designed for high accuracy and readability in measuring temperatures not far from normal ambient heats. Range is −40 to 200° F. Instrument is available with interchangeable surface temperature, air temperature, hypodermic needle, regular needle, rigid immersion, and flexible wire thermocouples. Wire length is about 4 ft. • **Illinois Testing Laboratories, Inc.**, 420 N. La Salle St., Chicago 10, Ill.

▲ For more details circle NED-244 B on enclosed inquiry slip ▲

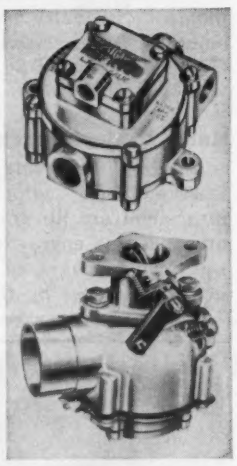
DUST COLLECTOR made in 1000, 1500, 2000-cfm sizes



Centrifugal action imparted to the dust before it reaches the cloth filter area separates much of the dust as it enters the Roto-Jet dust collector. High air-to-cloth ratio unit incorporates a rotating blow tube and roller support system that gives uniform cleaning time for each cloth segment. It maintains a controlled wrap of cloth around the blow tube. Automatic cloth take-up aids removal of particles from the fabric pores by a reverse bending action. Three sizes handle up to 1000, 1500, and 2000 cfm. • **Dustex Corp.**, Box 2520, Buffalo 25, N. Y.

▲ For more details circle NED-245 B on enclosed inquiry slip ▲

LP-GAS FUEL SYSTEM converts lift trucks and engines



A complete, true positive-pressure fuel system for gasoline engine powered industrial lift trucks and tractors, and for engines is provided by this Algas Met-R-Flo LP-gas fuel system. It consists of converter (top) and carburetor (bottom). System injects vaporized LP-gas fuel into the engine air stream under pressure which is controlled by the engine manifold vacuum. Only adjustments are the idle and power. Fork lift model carburetors have a built-in vacuum switch. Starting requires no primer or choke mechanism. • **American Liquid Gas Corp.**, 1109 Santa Fe Ave., Los Angeles 21, Calif.

▲ For more details circle NED-246 B on enclosed inquiry slip ▲

SHARP FLAME HAND TORCH for fine soldering and glass fusing

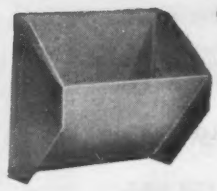
Gas and oxygen are mixed right at the burner face of this sharp flame hand torch, intended for fine silver soldering, brazing, crucible firing, and localized heating of parts. Advantages of surface-mixing are a hotter flame, elimination of flashback, good flame control, silent burning at any range, no internal burning, and a steady flame. Wide-range flame operation is afforded by the single tip which swivels through 360 degrees. Unit operates with oxygen on city, natural, mixed, propane, or hydrogen gases at ½ psi gas and 1-2 psi oxygen pressures. It weighs 8 oz. • **Bethlehem Apparatus Co.**, Front & Depot Streets, Hellertown, Pa.

▲ For more details circle NED-247 B on enclosed inquiry slip ▲

Choose from LINK-BELT's

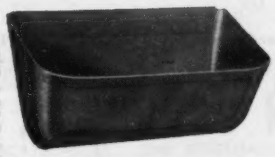
long line of long-life elevator buckets

STEEL FABRICATED



CONTINUOUS AND SUPER CAPACITY CONTINUOUS

"HS"—HIGH SPEED



SALEM

Versatility keynotes Link-Belt's line of steel buckets. HS type is designed for high-speed, maximum capacity. High ends minimize spillage . . . low lip facilitates pickup. Salem buckets are shaped for handling granular or powdered, free-flowing materials. Continuous buckets offer clean discharge at low speeds of stone, ore and other bulky, gritty materials.

For complete details on these all-welded buckets, contact your nearest Link-Belt office or authorized stock-carrying distributor. Write for Book 1050.

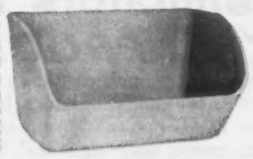
CAST AND MALLEABLE

STYLE AA — Recommended for heavy, gritty materials such as sand, gravel, stone. Has a reinforced lip for digging and added wear life.

STYLE B — Used on inclined elevators handling coarse materials. Low front design assures clean discharge at relatively low speeds.

STYLE C — Designed for easy, efficient handling of finely pulverized or wet materials that have a tendency to stick or pack.

STYLE D — This continuous bucket provides clean, gentle handling of coal, sand, gravel, crushed stone and other dry materials.



STYLE SC — Ideal for elevating either dry or relatively wet materials. Can handle greater capacities than styles A or C.

Correct bucket choice is a head start to low-cost elevating. And you'll find Link-Belt has cast buckets *exactly suited* to your material and capacity needs.

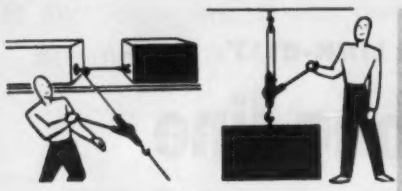
Link-Belt cast buckets are available in wear-resistant malleable iron or Promal. Corners are specially reinforced. Smooth surfaces, proper proportioning and rounded corners assure fast pickup, clean discharge. For complete details, write for Book 1050.

LINK-BELT

ELEVATOR BUCKETS

LINK-BELT COMPANY, Prudential Plaza, Chicago 1, Ill. 15,089

▲ For more details circle NED-248 B on enclosed inquiry slip ▲



CADILLAC WINCH HOIST

½ Ton ★ 1½ Ton ★ 2 Ton

Tested to full 100% overload. Lever acting. Dual operating speed. Operates in any position. Double interlocking pawls. Light weight and compact.

IT LIFTS • IT PULLS • IT LOWERS
REVERSIBLE HANDLE
EVERY HOIST LOAD-TESTED FOR MAXIMUM SAFETY, MAXIMUM PERFORMANCE. $29.50 AND UP.

Send inquiry card today.

Model 202WN, 1½ Ton Cap.

Full year guarantee against defective workmanship and materials.

ALUMINUM PRODUCTS, INC.

698 S.W. 2nd AVE. ESTABLISHED 1943 FT. LAUDERDALE, FLORIDA

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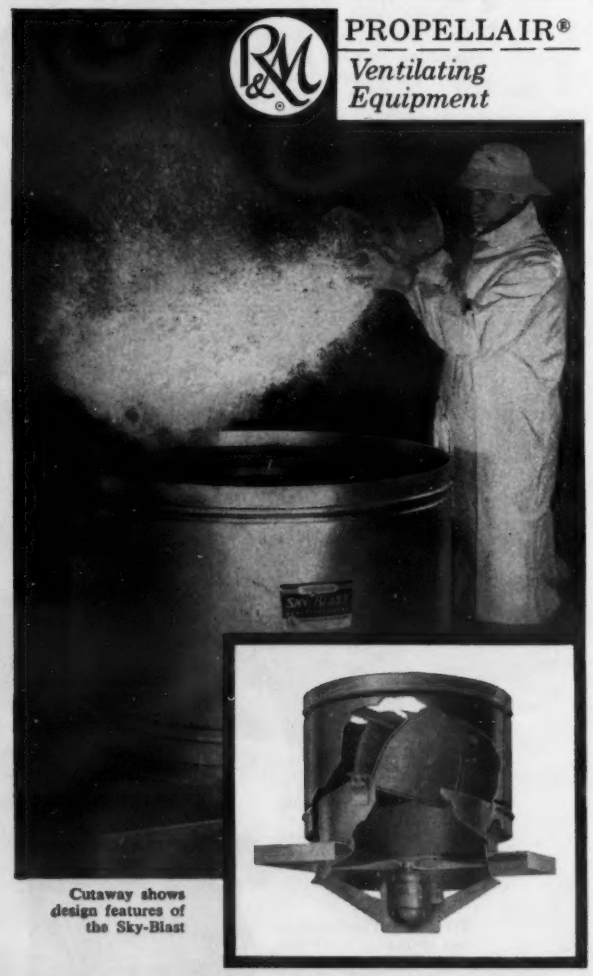


PROPELLAIR® *Ventilating Equipment*

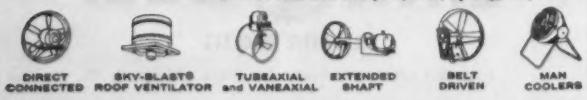
Cutaway shows design features of the Sky-Blast

Free-Flow SKY-BLAST® Roof Ventilators are *WEATHERPROOF!*

Even if the rain comes down in buckets, there's no need for weather covers on SKY-BLAST roof ventilators. In operation, the powerful airstream keeps out snow, rain and sleet. At rest, butterfly dampers form a water-tight seal, won't leak a drop. With no interfering covers, more air is moved at less cost. Fumes are thrown high in the air to prevent re-entry into the building and to eliminate roof maintenance problems created by other types of ventilators. Wind velocity or direction can't affect performance. Heavy gage steel surfaces are hot-dip galvanized for real sou'wester protection. With patented, non-clogging rainshed, low wind guard, rugged base and condensate drain, it's always fair weather beneath a SKY-BLAST. Wind tunnel proven ratings to 78,000 cfm. Send for bulletin 680—NE

PROPELLAIR®

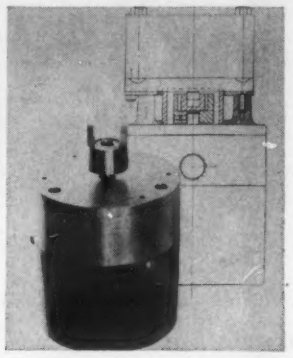
Div. of Robbins & Myers, Inc., *Springfield, Ohio*



MOVING AIR IS OUR BUSINESS®

▲ For more details circle **NED-250 B** on enclosed inquiry slip ▲

ROTARY ACTUATOR
electric unit positions or controls machine tools, valves, processes



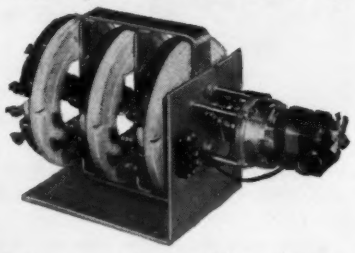
Remote or automatic control for a wide range of industrial equipment is provided by the SM-11 electric rotary actuator. The 4½-in. diameter, 5-in. long unit develops torque of 125 lb-in. and offers full scale control in 1 sec with an accuracy of 1 part in 1000. It will position or control machines, valves, or processes. It has enclosed and lubricated gear trains, weatherproof construction, and a choice of power supplies. Built-in potentiometer, limit switches, magnetic brake, and tachometer are optional.

Actuator is pushbutton controlled from a 115-v, 60-cycle ac supply, or supplied with a dial type remote positioner. Automatic control is usually provided by a transistorized printed circuit amplifier in a compact steel cabinet. Acceptable control signals include 3 to 15-psi air and 0.5 to 5 ma electric impulses. • **Jordan Controls, Inc.**, 3235 W. Hampton Ave., Milwaukee 9, Wis.

▲ For more details circle **NED-251 B** on enclosed inquiry slip ▲

RHEOSTATS & TRANSFORMERS
motor-driven variable types

Complete, motor-driven rheostats or variable transformers are now obtainable for use in remote control applications, or where predetermined rate of resistance or voltage change must be achieved smoothly. Standard drive consists of motor with integral gear reducer and cam-operated limit switches to accomplish reversal of the control. Motor-driven ganged assemblies of transformers or rheostats, or combinations of these, can also be supplied. Alternating or direct-current servo motors can be provided in addition to standard ac motors. Standard horizontal and vertical, or special mounting arrangements are offered. • **Ohmite Mfg. Co.**, 3677 Howard St., Skokie, Ill.



▲ For more details circle **NED-252 B** on enclosed inquiry slip ▲

Hand & Machine Engraving

Lambert Engraving Co.—Some of the brilliant finishes and rich sculptured effects achieved by cutting into metal are illustrated in 4-page brochure on hand and machine engraving. An unlimited number of designs can be engraved on a wide variety of metal products and shapes by this firm.

▲ For more details circle **NED-253 B** on enclosed inquiry slip ▲

Bradley

BRADLEY
FOOT-CONTROLLED WASHFOUNTAINS

Sanitary foot-controlled Bradley Washfountains are being used in greatly increasing numbers—in public and commercial buildings, food markets, restaurants, schools, institutions, factories—all over America. With foot control of water supply, hands are free for thorough washing and rinsing. Write for new Catalog 5601. BRADLEY WASHFOUNTAIN CO., 2253 W. Michigan St., Milwaukee 1, Wisconsin.

▲ For more details circle **NED-254 B** on enclosed inquiry slip ▲

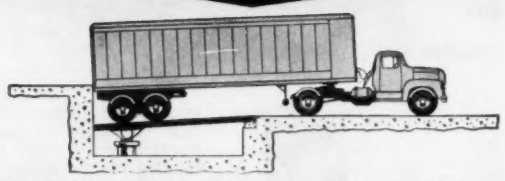
MACHINES TO MARK ANYTHING YOU MAKE

The ACROMARK Company

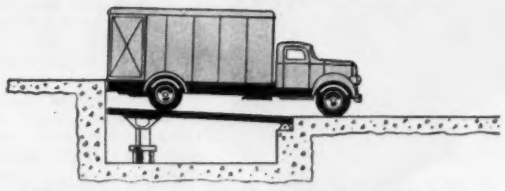
7-11 Morrell St., Elizabeth 4, N. J.

▲ For more details circle **NED-255 B** on enclosed inquiry slip ▲

Rotary® TRUCK LEVELER
saves dock space • speeds loading



High truck beds are lowered to dock level



Low truck beds are raised to dock level

The Rotary Truck Leveler, using economical hydraulic power, handles any highway carrier at any dock. Easily installed at new or existing buildings. Write for catalog RE-800.

ROTARY LIFT CO., 1174 Kentucky, Memphis 2, Tennessee

▲ For more details circle **NED-256 B** on enclosed inquiry slip ▲

THIS is No Ordinary Power Hack Saw Blade

This is the *unbreakable* MARVEL High-Speed-Edge Hack Saw Blade—the first bi-metal blade—invented, developed and introduced by MARVEL. This blade was developed to cut any material from the free machining steels to the toughest alloys, fast, accurately and economically. Just one type blade to handle any job—no switching blades to cut different materials.

MARVEL blades can be tensioned from 200% to 300% more taut than ordinary blades. This advantage permits heavier feed pressures to be used without deflection or fear of breakage.

This rugged cutting tool assures outstanding economy, accuracy, long life and complete safety—*it is unbreakable.*

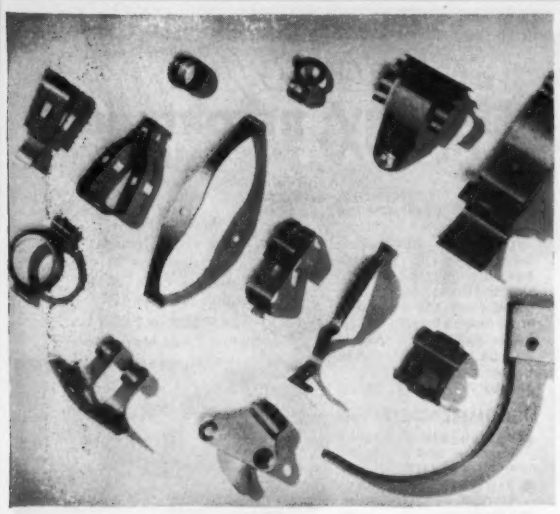
Ask for MARVEL Blades by name and you can be sure you're getting the best. Leading Industrial Distributors have them in stock. Write for latest Cutting Tool Bulletin. FB-1021

ARMSTRONG-BLUM MFG. CO.

5700 W. Bloomingdale Ave., Chicago 39, U.S.A.

Manufacturers of the Outstanding MARVEL Metal Saws

▲ For more details circle **NED-257 B** on enclosed inquiry slip ▲



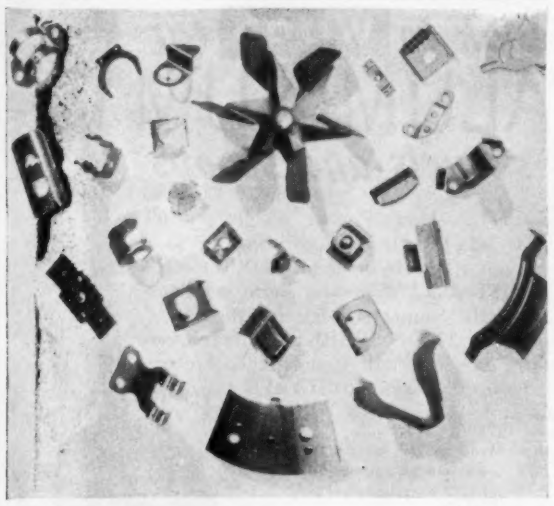
Flat Springs

Made from our cold-rolled specialty steels or the material of your choice. Ingenuity of tool design and versatile forming equipment combine operations and simplify production. Exceptionally varied experience in this class of work. Send samples or specifications for quotation.

Associated Spring Corporation
General Offices
Bristol, Connecticut

5920

▲ For more details circle NED-258 B on enclosed inquiry slip ▲



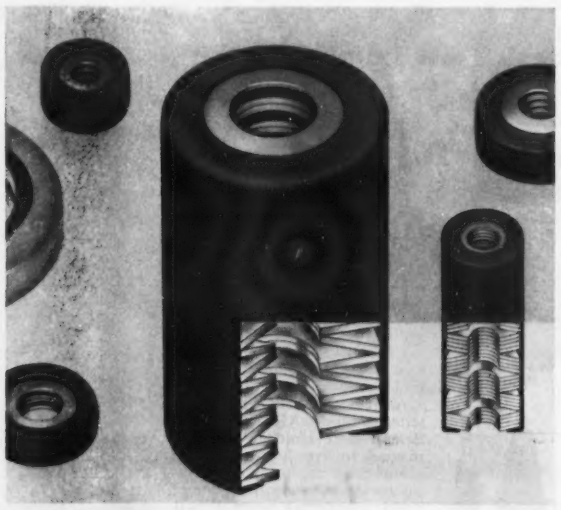
Small Stampings

Simple or intricate shapes punched, bent, crimped from all types of metals, including spring steel. Properly heat-treated to hold tolerances and working range. Our toolmakers are skilled in designing economical production set-ups for small or large orders. Send sample or specifications for quotation.

Associated Spring Corporation
General Offices
Bristol, Connecticut

5922

▲ For more details circle NED-259 B on enclosed inquiry slip ▲



Flexi-Pak ELASTIC COVERED† Energy Cartridges

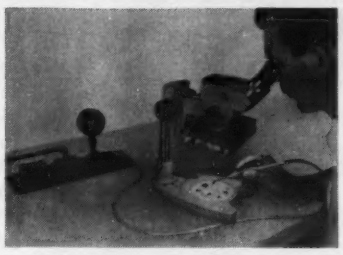
Energy Cartridges are available in Flexi-Pak form, with molded rubber, neoprene, or other elastic covering instead of rivets. For use on belleville washers with narrow walls, or where there are clearance restrictions, and to insure correct sequence of washers in handling. Write for pamphlet "Flexi-Pak elastic-covered† Energy Cartridges" (†U.S. Pat. 2,432,717).

Associated Spring Corporation
General Offices
Bristol, Connecticut

5642

▲ For more details circle NED-260 B on enclosed inquiry slip ▲

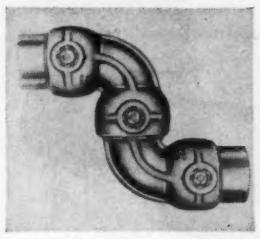
VACUUM HAND TOOL
lifts or holds small, delicate parts



Operated entirely by vacuum, this multipurpose hand tool allows fast handling of small, delicate, hard - to - manage parts in subassembly operations. Vacuum holding eliminates pinching or nicking of parts during inspection. In plants where vacuum is not available, a transducer is offered which develops vacuum from compressed air. Vacuum pressure is adjusted by changing plastic tips which hold parts and by a regulator installed on the air line. The Bazooka vacuum probe fits comfortably in operator's hand and is offered with a wide range of plastic tips. • **Air-Vac Engineering Co.**, Old Stratford Road, Shelton, Conn.

▲ For more details circle NED-261 B on enclosed inquiry slip ▲

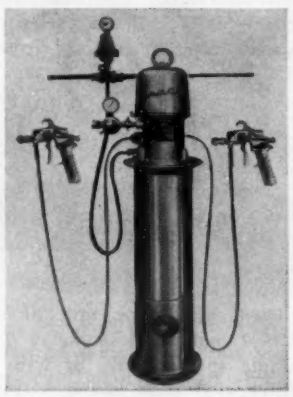
STAINLESS LOADING ASSEMBLIES
for handling fluids and chemicals



Bulk loading and unloading of fluids, chemicals, and corrosive liquids are speeded up with stainless steel loading assemblies. They utilize Series 7400 stainless steel swivel joints and piping. Spring balance style is offered in 2½, 3, and 4-in. sizes, whereas counterweight style is made in 2, 2½, 3, and 4-in. sizes. Prices range to $1904. Typical swing joint is pictured. • **OPW-Jordan Corp.**, 6013 Wiehe Rd., Cincinnati 13, Ohio.

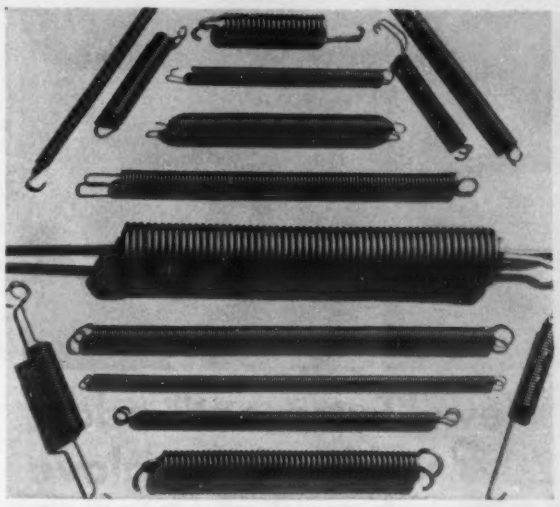
▲ For more details circle NED-262 B on enclosed inquiry slip ▲

PAINT SPRAYING SYSTEM
airless type has little overspray



Standpipe Hydra-Spray airless paint spraying system connects to existing circulating paint systems and affords central paint viscosity control of all spray outlets. Virtually all overspray and bounce-back at remote spray areas are eliminated in providing uniform coverage over rough or porous surfaces. Paint is continually circulated and drawn into the unit only as it is used. Standpipe occupies less than 1 sq ft of floor space. • **Gray Co.**, 1037 Sibley St. N.E., Minneapolis 13, Minn.

▲ For more details circle NED-263 B on enclosed inquiry slip ▲



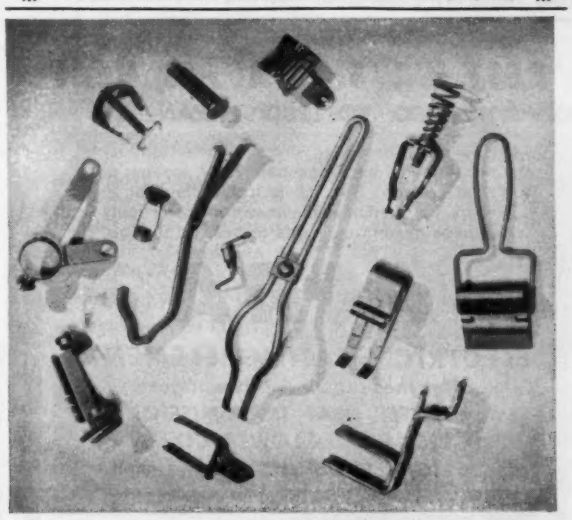
Extension Springs

All types and sizes custom made to meet your performance requirements. Wide range of end coil treatment, hooks and loops. Also swivel end and drawbar types. Precision made to hold dimensions and load carrying capacity. Send for pamphlet "Spring Design and Selection—in brief."

Associated Spring Corporation
General Offices
Bristol, Connecticut

5921

▲ For more details circle NED-264 B on enclosed inquiry slip ▲



Spring Assemblies

Partial or complete assemblies delivered ready to use. Combinations of round or flat wire springs, wire forms, stampings . . . punched, riveted, spot welded or assembled under spring tension. Springs also assembled with parts furnished by customer. Save equipment and labor costs. Use our convenient, ready-to-go facilities.

Associated Spring Corporation
General Offices
Bristol, Connecticut

5923

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Engineering, manufacturing, and sales facilities located coast-to-coast for custom service on all your requirements

BRISTOL, Conn.
Wallace Barnes Division
Dunbar Brothers Division
F. N. Manross and Sons Division

SYRACUSE 9, N. Y.
Wallace Barnes Division
State Fair Boulevard

CORRY, Pa.
Raymond Manufacturing Division

HAMILTON, Ontario, Canada
The Wallace Barnes Company Ltd.
274 Sherman Ave. North

MONTREAL, Quebec, Canada
The Wallace Barnes Company Ltd.
Nordic Ave. at Hymus Blvd.
Pointe Claire

CLEVELAND 23, Ohio
Sales Office
22700 Shore Center Avenue

DAYTON 3, Ohio
Ohio Division
1825 East First Street

PLYMOUTH, Mich.
B-G-R Division
40300 Plymouth Road

ANN ARBOR, Mich.
B-G-R Division
401 East Stadium Boulevard

CHICAGO 14, Ill.
Gibson Division
1800 Clybourn Ave.

MILWAUKEE, Wis.
Milwaukee Division
341 East Erie Street

LOS ANGELES, Calif.
Seaboard Pacific Division
15001 South Broadway
Gardena, Calif.

SAN FRANCISCO, Calif.
Sales Office
19031 Saratoga Glen Place
Saratoga, Calif.

Wallace Barnes Steel Division
Bristol, Conn.
High Carbon Strip Steel

Associated Spring Corporation
General Offices
Bristol, Connecticut

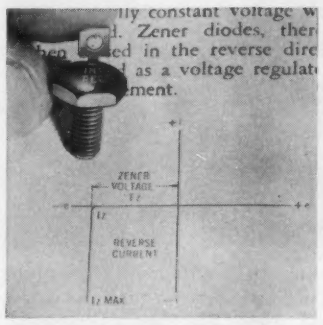
New "Extracoat" adds 20% to life of this glove

► **By increasing the amount of vinyl coating** on the palm, where wear is greatest, Edmont now adds at least 20% to the working life of this super-flexible Snorkel glove. Also has exceptional wet grip and resistance to abrasion, oils, solvents. Two-piece jersey liner; wing thumb; curved, pre-flexed fingers, seamless palm give unequalled working ease. ► **Free Test Offer to Listed Firms:** We make more than 50 types of coated gloves, including 4 Snorkel styles. Describe your operation. We will send samples of the correct glove for on-the-job testing. Edmont Manufacturing Company, 1240 Walnut Street, Coshocton, Ohio.
In Canada write MSA, Toronto.

Edmont JOB-FITTED GLOVES

▲ For more details circle **NED-268 B** on enclosed inquiry slip ▲

SILICONE ZENER DIODES
offered in 5.6 to 27-v ratings

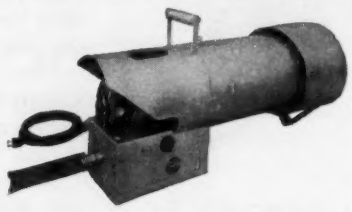


Tri-sealed silicone zener diodes with a 10-w rating feature a three-layer seal which provides high resistance to temperature extremes, humidity, and shock, yet makes possible low cost. They demonstrate low zener impedance value and sharp zener "knees." The 10-w and previously announced 500-milliwatt and 1-w units are available in standard RETMA 10 per cent voltage steps from 5.6 to 27 v. ● **International Rectifier Corp.**, 1521 E. Grand Ave., El Segundo, Calif.

▲ For more details circle **NED-270 B** on enclosed inquiry slip ▲

SPACE HEATER
produces 200,000 to 240,000 Btu

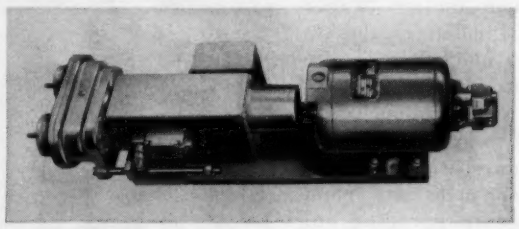
Burner control method used in this blower type space heater enables it to produce from 200,000 to 240,000 Btu. Heater operates on natural gas at line pressure. All controls, except thermostat, are self-contained. Unit shuts off automatically if blow-out or blow-back occurs. An LP-gas conversion kit is available. ● **Aeroil Products Co.**, 69 Wesley St., South Hackensack, N. J.



▲ For more details circle **NED-271 B** on enclosed inquiry slip ▲

DRILLING UNIT
suited for automation setup

Self-contained, hydraulically actuated drill unit operates at 0 to 3000 cycles per hour and has spindle speeds ranging upward from 1200 rpm. The 600-lb



thrust, quill type unit mounts in any position and has a maximum stroke of 4 in. It is furnished as a single spindle unit, or with a multiple spindle head. Illustrated unit has a ½-hp, 1800-rpm motor, speed of 2000 rpm, and cycle time of 2 sec for a 3-in. forward and return stroke. ● **John S. Barnes Corp.**, 315 S. Madison St., Rockford, Ill.

▲ For more details circle **NED-272 B** on enclosed inquiry slip ▲

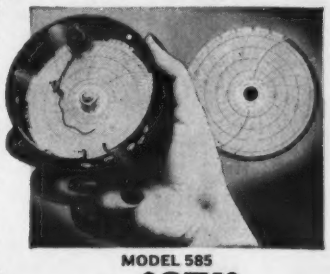
NOW! A LOW COST *dry stylus*
PANDUX® RECORDING THERMOMETER

Highly portable field service unit records temperature and time on a replaceable paper chart, in permanent or temporary installations, in any position. May be packed with shipments or encased in polyethylene bag for humid or corrosive atmospheres. No ink to spill, run or freeze. May be sealed to prevent tampering. Only 3-15/16" dia. by 2-7/8", wt. 14 oz.

FOUR RANGES:
20° F. to 220° F.
40° F. to 140° F.
Minus 40° F. to 160° F.
Minus 30° F. to 70° F. *
24 HOUR or 7 DAY
Spring Clock Movement

RECOMMENDED FOR
- Perishable goods in transit — land, sea or air — or in storage.
- Refrigerator or freezer storage.
- Low temperature ovens, curing rooms, incubators, greenhouses.
- Offices, factories, assembly halls, hospital rooms and other enclosures.
- Heating and air conditioning systems.

*Also Centigrade equivalents.



MODEL 585
only $37.50
F.O.B. LOS ANGELES

Your order will be filled through your nearest dealer.
Phone GR 8-1134 or write Dept. ND-260

PACIFIC TRANSDUCER CORP. 11836 W. Pico Blvd. Los Angeles 64, Calif.

Dealer Inquiries Invited . . . Some Territories Still Open.

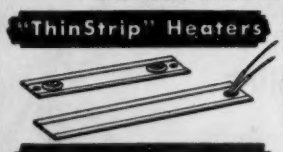
▲ For more details circle **NED-274 B** on enclosed inquiry slip ▲

BEST WAYS TO APPLY HEAT
IN 100° TO 1200° F. RANGE

How much heat? By what method—Conduction—Radiation—Convection? By means of what devices? Specialists in this field for 20 years, we often have the answers—can supply precise heating elements to best do the job.

ACRA
ELECTRIC HEATING ELEMENTS
offer these distinct advantages:-
- FASTER HEAT TRANSMISSION
- LESS LAG • LOWER COST
- LIGHTER WEIGHT

"ThinStrip" Heaters



Best solution to most problems of space or conduction heating. Due to design and materials used they work faster, offer lower barrier, less radiation loss, permit closer thermostatic control. Send for BULLETIN SHA.

Drum Heaters

They melt, speed up, solid or slow flow materials (resins, waxes, oils, etc.) for quickly emptying drums. Save time, materials, money. Band heaters of many other types and sizes available.

Cartridge Heaters

For insertion into holes drilled in platens, die and mold blocks, heat sealing machines. Snug fit assures maximum efficiency, long life. Numerous types, sizes.

Immersion Heaters

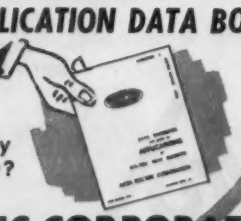
They fill the need for safe and efficient heating elements in boilers, tanks and similar receptacles. Special designs and materials to meet special requirements.

Tubular Heaters

Ideal for low temperature applications. Sheath temperature limitation 550° F. Have quick heating, long life nickel-chromium resistors in aluminum tubing. Insulated. Waterproofed.

ENGINEERING SERVICE
We welcome opportunities to "sit in" with product designers and plant engineers developing a new product or improving an old one. Our specialized experience often enables us to effect savings, increase efficiency.
HELP ON DEVELOPMENT WORK

FREE—HEAT APPLICATION DATA BOOK
FACT PACKED AND HELPFUL
Write for your copy . . . Today?

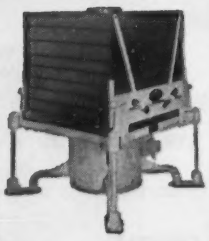


ACRA ELECTRIC CORPORATION
9907 Pacific Ave. • Franklin Park, Ill.

▲ For more details circle **NED-269 B** on enclosed inquiry slip ▲

Sifts huge volumes with Big Savings in Floor Space

RICHMOND SPROUT-WALDRON
Gyro-Whip SIFTER



Noted for huge output, amazingly compact design, and sanitary operation, these sifters are available in sizes ranging from 3-sieve, floor-mounted models to free-swinging super-sifters with 180 sieves. Stainless steel and wood construction. Can sift from 2 mesh up to 325 mesh. They handle any product that can be mechanically separated. Aspirator tips to air wash graded products can be provided.

Write for Bulletin 135-A

Other Sprout-Waldron size classification equipment includes revolving reels, shaking and gyrating screens, air and magnetic separators, and graders. Write for details.

SPROUT-WALDRON
Manufacturing Engineers Since 1866
LOGAN STREET • MUNCY, PA.
EQUIPMENT FOR SIZE REDUCTION—MIXING & BLENDING — BULK MATERIALS HANDLING — PELLETING & CUBING — PRODUCT CLASSIFICATION
IN/502

▲ For more details circle **NED-273 B** on enclosed inquiry slip ▲

Look to WOOD *for* ALUMINUM *shovels and scoops*

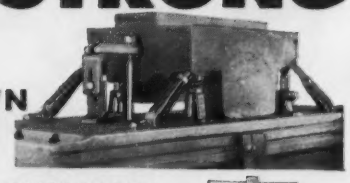
LIGHT! Wood's Zephyr Weight aluminum shovels and scoops save up to one ton of lifting in seven. CORROSION RESISTANT! Withstand steam, most chemicals. Sanitary models for food processors. NON-SPARKING! Safe where dust, gas or volatile liquids make fire or explosion hazards. 20 STYLES to fit your job needs.

Made by the makers of MOLY brand mo-lyb-den-um alloy and JET LITE hi-carbon steel industrial shovels and scoops.

THE WOOD SHOVEL & TOOL CO.
Piqua, Ohio

▲ For more details circle **NED-275 B** on enclosed inquiry slip ▲

ARMSTRONG
SET-UP *and* HOLD-DOWN TOOLS



ARMSTRONG Set-up and Hold-down Tools reduce setting-up time—keep men and machines producing. Designed for use on planers, drill presses, milling machines, etc., they hold work securely and rigidly, and thereby reduce spoilage and prevent costly accidents.

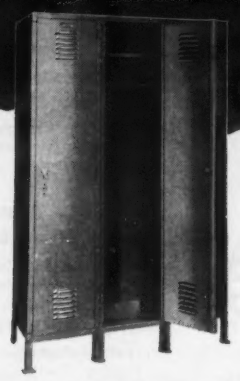
Your local Armstrong Distributor carries ARMSTRONG Set-up and Hold-down tools in stock in sizes for every operation. Stop haphazard setting-up methods. Provide each of your machines with a full complement of ARMSTRONG Set-up and Hold-down Tools.

Write for circular

ARMSTRONG BROS. TOOL CO.
5245 W. ARMSTRONG AVE. • CHICAGO 46, U.S.A.

▲ For more details circle **NED-276 B** on enclosed inquiry slip ▲

LYON STEEL LOCKERS



Lyon, the leading manufacturer of steel lockers, offers quality design features which really pay off. All-welded, rigid frame, positive locking action, heavy-duty hinges, streamlined, chrome finger-tip handle (patented). Many types of lockers—single, double, multiple tier, etc., meet every space and capacity requirement.

Write for free 92-page Lyon Steel Equipment Catalog.

LYON METAL PRODUCTS, INC.
General Offices: 122 Monroe Ave., Aurora, Illinois
Factories in Aurora, Ill., York, Pa. and Los Angeles
Dealers and Branches in all Principal Cities

▲ For more details circle **NED-277 B** on enclosed inquiry slip ▲

use *Levolier* switches for GUARANTEED performance

No. 41 Unconditionally guaranteed 6 amp. "T" 125 V - 3 amp. 250 V

No. 71 Only 15/32" thick 6 amp. "T" 125 V - 3 amp. 250 V

The high standards of design, workmanship and materials that make it possible to guarantee the No. 41 LEVOLIER® unconditionally against failure in lighting circuits are applied to all LEVOLIER switches. Cut switch failure and replacement costs. Use 6 to 20 amp LEVOLIER switches for canopy, fixture and FHP motor use. Also toggle push button and momentary contact types.

Available from your electrical wholesaler

Send for McGILL Catalog No. 84.

engineered electrical products
McGILL®
precision needle roller bearings

McGILL MFG. CO. INC., Electrical Div., 151 N. Campbell St., Valparaiso, Ind.

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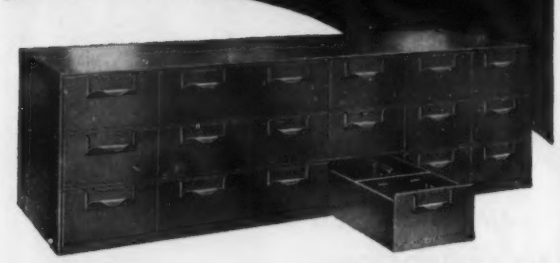
LYON DRAWER CASE UNITS



These heavy-duty steel drawer case units provide your most convenient way to store small parts. Built to take a lifetime of hard usage. Dividers instantly adjustable every inch—permit quick rearrangement. Available in 12, 18 and 24 drawer units. Lyon green baked-on enamel finish.

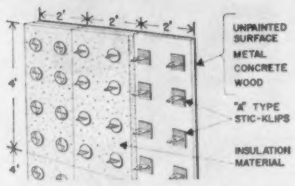
Write for free 92-page Lyon Steel Equipment Catalog.

LYON METAL PRODUCTS, INC.
General Offices: 122 Monroe Ave., Aurora, Illinois
Factories in Aurora, Ill., York, Pa. and Los Angeles
Dealers and Branches in all Principal Cities

▲ For more details circle **NED-279 B** on enclosed inquiry slip ▲

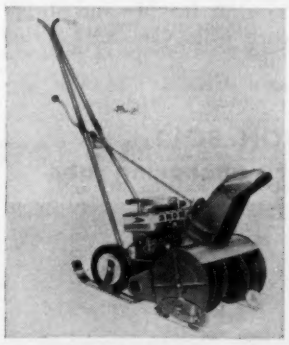
INSULATION FASTENERS
quickly anchored to wall or ceiling

Rapid and economical means of anchoring all types of sound insulation to metal, concrete, or wood is provided by Stic-Klip fasteners. They are firmly anchored to the wall or ceiling surface with a rapid - bonding adhesive before the insulation is put up. Time and labor required is minimized. Clips are capable of supporting 75 lb each. • **Stic-Klip Mfg. Co.**, 50 Regent St., Cambridge 40, Mass.



▲ For more details circle **NED-280 B** on enclosed inquiry slip ▲

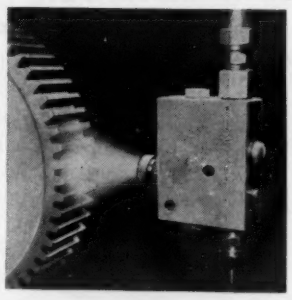
SNOW THROWER
clears 15-in. swath in heavy snow



This 2½-hp Snow-Boy snow removal unit will clear a 15 - in. path through a heavy layer of snow. It is designed with an oversize magneto, special choke disc, priming nozzle, and heavy flywheel, in addition to cold weather carburetor and heat exchanger. Operator can aim remote-controlled discharge chute in any direction. Unit is sold with snap-on front and rear skis to minimize throwing of stones in crushed rock or gravel driveways. Price is $159.95. • **Outboard Marine Corp.**, Lawn-Boy Div., Lamar, Mo.

▲ For more details circle **NED-281 B** on enclosed inquiry slip ▲

LUBRICANT SPRAYER
operates on 15-25 psi air pressure



Varying conditions of lubricant viscosity or temperature are handled by the Air Lube gear spray valve without adjustment. It requires only 15 to 25 psi of air pressure, and automatically shuts off the air when lubricant feed shuts off. All oils and greases suitable for pumping may be used. Valve is used with centralized systems planned for gear lubrication only, or it can be added to existing systems using an all-purpose lubricant on both gears and bearings, and served by the same pump. Flat or cone pattern nozzles are available. Air and lubricant lines used are usually ¼ or ⅜-in. tubing. • **Trabon Engineering Corp.**, 28815 Aurora Rd., Solon, Ohio.

▲ For more details circle **NED-282 B** on enclosed inquiry slip ▲

COMBINATION SAWS can now be filed automatically

with the New MODEL 200

FOLEY *Automatic* SAW FILER

Also CROSSCUT CIRCULAR SAWS, BAND SAWS, HAND SAWS

This is the FIRST and ONLY machine which will file the so-called "combination" (rip and crosscut) circular saws; also crosscut circular saws, band saws, all types of hand saws.

The exclusive Foley principle of jointing the saw as it is filed, keeps teeth uniform in size, shape and spacing; keeps circular saws perfectly round, usually doubles saw life

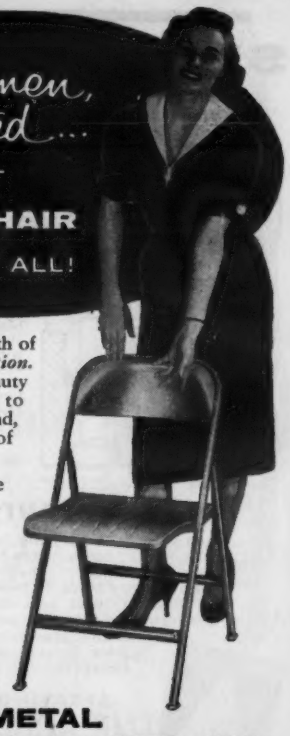
30-Day Trial Offer. You may try the new Model 200 Foley Saw Filer in your own shop for 30 days. Write for literature and details of 30-day trial offer.

FOLEY MFG. CO. 3323 N.E. 5TH STREET MINNEAPOLIS 18, MINN.

▲ For more details circle **NED-283 B** on enclosed inquiry slip ▲

Gentlemen, be seated...

IN THE BEST **FOLDING CHAIR** OF THEM ALL!



Compare the resilient strength of Lyon *channel frame construction.* Compare Lyon functional beauty —backs and seats curved to match body contour — round, smooth edges and pinch-proof hinges.

Millions of Lyon chairs are in use, all over the world, providing the utmost in comfort, safety and long life at the lowest possible cost.

Write for free 92-page catalog. Lyon Metal Products, Inc., 122 Monroe Avenue, Aurora, Illinois.

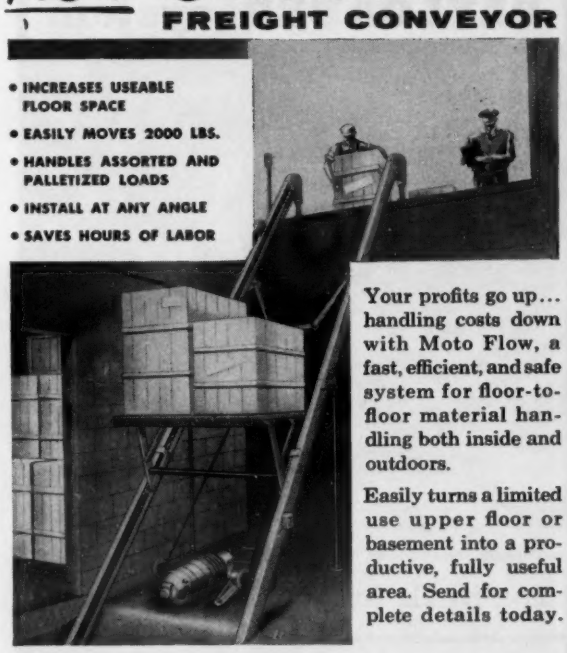
LYON® METAL PRODUCTS, INC.

DEALERS AND BRANCHES IN ALL PRINCIPAL CITIES

▲ For more details circle **NED-284 B** on enclosed inquiry slip ▲

New MB MOTO FLOW FREIGHT CONVEYOR

- INCREASES USEABLE FLOOR SPACE
- EASILY MOVES 2000 LBS.
- HANDLES ASSORTED AND PALLETIZED LOADS
- INSTALL AT ANY ANGLE
- SAVES HOURS OF LABOR



Your profits go up... handling costs down with Moto Flow, a fast, efficient, and safe system for floor-to-floor material handling both inside and outdoors.

Easily turns a limited use upper floor or basement into a productive, fully useful area. Send for complete details today.

M-B CORPORATION
New Holstein, Wisconsin
QUALITY EQUIPMENT SINCE 1907

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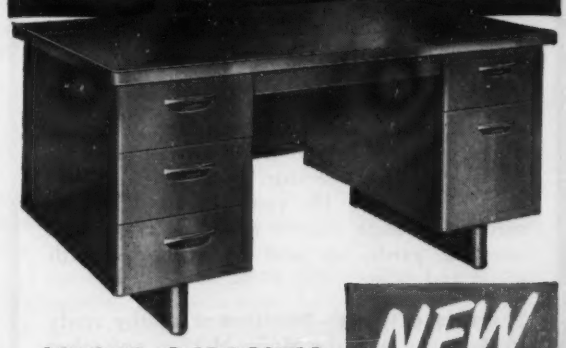
LYON OFFICE DESKS



HIGH QUALITY LOW PRICE *NEW*

An unbeatable value—this Lyon 60" office desk. Welded construction throughout. Skid-type base has adjustable feet. 26" center drawer, interchangeable pedestal drawers. Attractive gray finish. Heavy-duty linoleum top. Nylon gliders on all drawers. Also available, 42" single-pedestal model—60" conference table. *Write for* Free Desk Bulletin No. 170.

LYON METAL PRODUCTS, INC.
General Offices: 122 Monroe Ave., Aurora, Illinois
Factories in Aurora, Ill., York, Pa. and Los Angeles
Dealers and Branches in all Principal Cities

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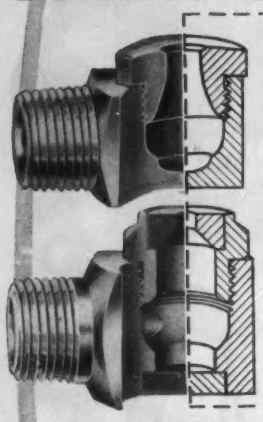
SPRAY NOZZLES



already designed

to meet your specifications

When you check Spraying Systems' Catalog 24 . . . the range of "standard" spray nozzle types, capacities and materials is so great in number . . . that it is rare when you cannot find a nozzle already made to meet your specifications, no matter how "special" your specifications might be. With Spraying Systems you gain the advantages of special nozzle performance characteristics at lower cost standard nozzle price. For complete information write for your free copy of the forty eight page reference Catalog 24.

SPRAYING SYSTEMS CO.
3211 RANDOLPH STREET • BELLWOOD, ILLINOIS
ADVANCED SPRAY NOZZLE DESIGN FOR NEW DIMENSIONS IN CONTROL AND PERFORMANCE

▲ For more details circle **NED-287 B** on enclosed inquiry slip ▲

PAYLOADER® system

for bulk material handling

The new H-25 "PAYLOADER" tractor-shovel is the most flexible material handling system that can be installed in your plant. It loads itself anywhere, travels any path, delivers and unloads itself any place.

Adaptable — Only one man is needed to operate a "PAYLOADER" and, without special or expensive installations, it works indoors or outdoors, on paved or unpaved surfaces with equal efficiency.

It digs and carries 2,500-lbs. low and close with good balance and fullest operator visibility. Power-steering and only 6-ft. turning radius, power-shift transmission with torque-converter drive, and powerful hydraulic brakes all assure the operator of safe, easy and accurate control. He can maneuver around corners, through narrow aisles, doorways and crowded yards, up and down ramps with speed and safety.

There is a Hough Distributor nearby ready to show you how the Model H-25 or any other "PAYLOADER" unit (up to 12,000-lb. operating capacity) can increase output on your bulk handling work. Contact him today or write for complete details.

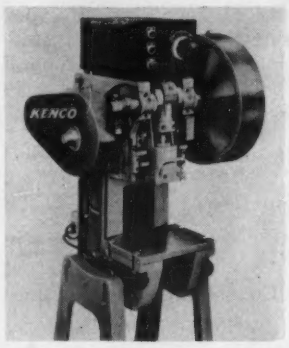
2-A-4

HOUGH®

THE FRANK G. HOUGH CO.
LIBERTYVILLE, ILLINOIS
SUBSIDIARY — INTERNATIONAL HARVESTER COMPANY

▲ For more details circle **NED-288 B** on enclosed inquiry slip ▲

PRODUCTION STAMPING PRESS
18-ton unit punches, forms, blanks



Now offered in 18-ton as well as 5, 8, 12, and 15-ton capacities, Electro-Safe high speed presses can be used singly or in multiple setups for punching, forming, blanking, stamping, or bending. Drive has no clutch or flywheel, eliminating hazards during loading cycle and permitting instant stopping or starting of press at any point in the stroke. Operator must depress and hold to the bottom of stroke two widely spaced buttons at the same time to trip the press. Key-locked selector can be set to "continuous," "single trip," or "inch." A range of shut heights and stroke lengths are available. • **Kenco Mfg. Co.**, 5211 Telegraph Rd., Los Angeles 22, Calif.

▲ For more details circle **NED-289 B** on enclosed inquiry slip ▲

ONE-PIECE EXPANSION BOLT
simplifies masonry anchoring jobs

Fastening or anchoring of electrical equipment, structural members, and machinery in concrete, masonry, plastic, stone, or steel is simplified by the WEJ-IT one-piece single integral expansion bolt. It requires only one size hole and expands as it is wrenched tight. Bolt is offered in sizes from $\frac{1}{4}$-in. OD by $1\frac{3}{8}$ in. long to $\frac{3}{4}$-in. OD by 12 in. • **Kirel Inc.**, Kingston, N. Y.

▲ For more details circle **NED-290 B** on enclosed inquiry slip ▲

LOAD INDICATOR
mechanically measures press strain

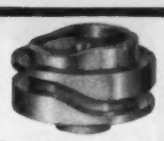
Self-contained Dial-A-Load mechanical load indicator for press-fit assembly machines, hydraulic and molding presses, and other slow-performing equipment is bolted or welded in place. It measures press strain and shows per cent of rated load. A mechanical amplification system magnifies microscopic dimensional changes in the press frame, converting them to rotary motion to operate a 360-degree dial indicator. Dial of the 7 x 5 x 2-in. device produces one revolution for a strain of 0.0002 in. per inch. Price is $150. • **Lebow Associates, Inc.**, 14857 W. 11 Mile Rd., Oak Park 37, Mich.

▲ For more details circle **NED-291 B** on enclosed inquiry slip ▲

▲ For more details circle **NED-292 B** on enclosed inquiry slip ▲

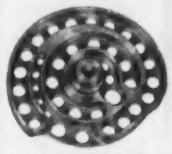
PRECISION CAMS and CAMSHAFTS

All Types . . . Experimental and Production



Special Drum Type Cam

TWO AND THREE DIMENSIONAL CAMS
for Ballistic, Computer and Instrument Use—Milled or ground to ± .0001" tolerance



Face Type Cam

FACE AND CYLINDRICAL CAMS
milled or ground to ± .0002" tolerance

CAMSHAFTS
Aircraft, Automotive, Diesel Marine, Fuel Injection

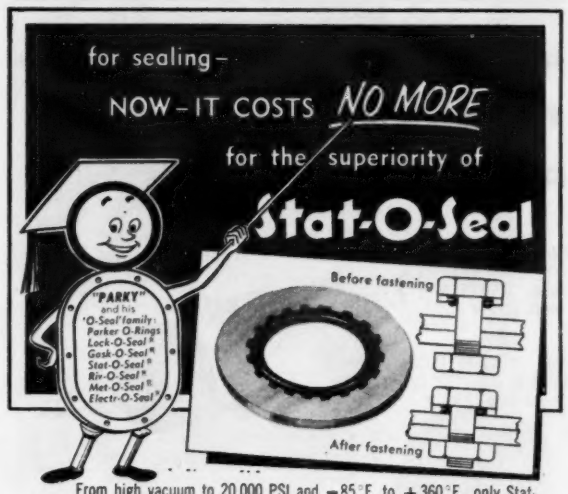
Camshaft for Internal Combustion Engine

EONIC Inc. Engineers of Precision

Write for catalog and additional information

459 E. Hollywood • Detroit 3, Michigan

▲ For more details circle **NED-293 B** on enclosed inquiry slip ▲



From high vacuum to 20,000 PSI and −85°F. to +360°F., only Stat-O-Seals offer safe, sure, effective sealing using the principle of controlled confinement of the seal plus **mechanical** bonding.

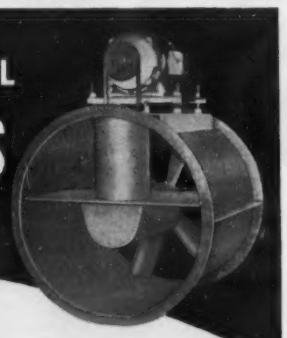
They will not "twist" in installing and there's no chemical bonding agent that can be attacked by corrosives . . . and: metal-to-metal contact; quick, visual inspection; simple, one-piece assembly; re-useable; o-ring style configuration for versatility and freedom from damage.

By the makers of Parker O-rings and Gask-O-Seals.

Parker SEAL COMPANY
CULVER CITY, CALIF. • CLEVELAND, 12, OHIO
A DIVISION OF Parker Hannifin CORPORATION

▲ For more details circle **NED-294 B** on enclosed inquiry slip ▲

NEW HARTZELL
FIBERGLASS
DUCT FANS



OFFER
UNSURPASSED RESISTANCE
TO CORROSION . . .
and at a cost substantially
below that of stainless steel
or monel construction

21 MODELS . . . SIZES FROM 12" TO 36"

For details, call your nearby Hartzell field office or write for Bulletin A-116

HARTZELL PROPELLER FAN CO.
Div. of Castle Hills Corp.
62 Thomas Blvd., Piqua, Ohio
A member of AMCA

▲ For more details circle **NED-295 B** on enclosed inquiry slip ▲

Compact, economical, safe. All revolving parts are covered. Instantly adjustable. Shreds ⅛" to ⅜". Designed for continuous and trouble-free service.

Quickly shreds newspapers, magazines, waste paper, cellophane, tissue, corrugated cartons, wax paper, etc. into uniform resilient 1/8" to 3/8" strands, ideal for packaging purposes. Especially adapted to shredding confidential records, blue prints or any classified material.

Send for descriptive bulletin S1255. Names of users near you available on request.

FREE TRIAL! Operate a SHRED ALL for 30 days — if not satisfied — return — owe nothing.

UNIVERSAL SHREDDER CO.
2934 Bay Road — Saginaw, Michigan

▲ For more details circle NED-296 B on enclosed inquiry slip ▲

Balance loads, check welding current, avoid shutdowns, reduce repair costs. TONG TEST AMMETERS measure both alternating and direct current. No electrical connections required, simply press trigger and snap tongs around electrical conductor for instant readings. Interchangeable ranges up to 1000 amperes; impossible to read the wrong scale.

Rugged and dependable, safe and accurate. No coils or wires to burn out. Eight types of TONG TEST available for conductors up to 3⅞" diameter or bus bars up to 4½" x ½".

Write for Catalog ND-400

COLUMBIA
COLUMBIA ELECTRIC MFG. CO.
4525 Hamilton Ave.
CLEVELAND 14, OHIO

▲ For more details circle NED-297 B on enclosed inquiry slip ▲

Exciting new best seller! Yours FREE!

WILTON'S NEW "BOOK" IS MORE THAN A CATALOG!

It's actually a production know-how manual that shows you in-plant photos and operating case histories of how Wilton clamping tools (both manual and powered) have been used by the best brains in the business to save time and money. Of course we show our line, and that too is unique—**Wilton has the most complete line of clamping tools in the world.** Write for your copy now; it's an education that will pay dividends in your plant. No obligation, of course.

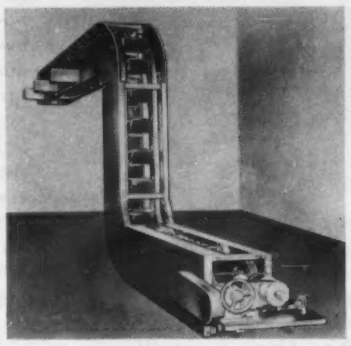
NED-20

WILTON

WILTON TOOL MANUFACTURING CO. INC. • SCHILLER PARK, ILLINOIS
Canadian Address: 178 Norseman St., Toronto, Ontario

▲ For more details circle NED-298 B on enclosed inquiry slip ▲

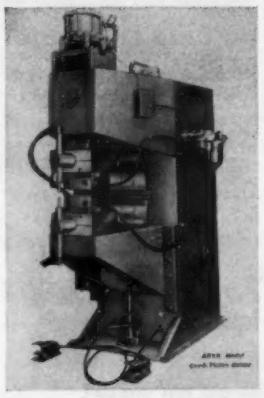
BUCKET CONVEYOR CONTROL
dumps buckets at desired hoppers



The Econ-O-Lift gentle-action elevator conveyor can be made to serve any desired number of bins or hoppers with installation of a simple, automatic dump control. Nylon-covered cam control is moved by solenoid into position to cause buckets to dump their contents at any point. Cam can be controlled by a material level indicator. Conveyor receives material automatically at a loading point and distributes it to any number of hoppers or bins without an operator. Uses include bulk handling of small parts, chemicals, and raw or processed materials. • **Econ-O-Veyor Corp.**, Dept. E, 224 Glen Cove Ave., Glen Cove, N. Y.

▲ For more details circle NED-299 B on enclosed inquiry slip ▲

SPOT & PROJECTION WELDER
50 to 200-kva current capacities



Sheet metal, wrought iron, and wire fabrication are applications for the Model ARKN combination spot and projection welder. It has an electrolytic bronze platen and standard arm arrangement. A hydraulic jack provides easy up-and-down adjustment of the lower extension arm. Welder also has a self-adjusting pressure switch to maintain sure pressure firing. It is offered in 50 to 200-kva current capacities, ample for welding 16-gage commercial aluminum and 7-gage cold-rolled steel. A two-stage foot switch allows selection of manual or high speed automatic operation. • **Alphil Spot Welder Mfg. Corp.**, 1058 Pacific St., Brooklyn 16, N. Y.

▲ For more details circle NED-300 B on enclosed inquiry slip ▲

Blast Cleaning Abrasive Handbook

Wheelabrator Corp.—Topics discussed in handbook on blast cleaning abrasives include how performance controls economy, how abrasive breakdown characteristics affect finishes and cleaning costs, how abrasive hardness affects cleaning speed, how abrasive size affects finish quality, and how to control the finish achieved by airless blast cleaning. Request Bulletin 903D by writing to Wheelabrator Corp., 1128 S. Byrkit St., Mishawaka, Ind.

▲ For more details circle NED-301 B on enclosed inquiry slip ▲

make hardness tests ANYWHERE WITH THE NEWAGE TESTER

- CLAMPS, JAWS & BASE PLATE ARE ELIMINATED
- NO CONVERSIONS OR CALCULATIONS
- TEST ANY SIZE, SHAPE OR TYPE METAL
- NO SKILL REQUIRED
- SCALE READINGS IN ROCKWELL & BRINELL
- ACCURACY GUARANTEED

Many thousands used by industry and government. Write, wire or call for additional details and prices.

NEWAGE INDUSTRIES, INC.
222 York Road *Jenkintown 13, Pennsylvania*
TUrner 4-8494

▲ For more details circle NED-302 B on enclosed inquiry slip ▲

The Louis Allis
IMMERSIBLE MOTOR

Here's an electric motor that's designed for continuous operation immersed in a liquid! Works in vat or sump — or at the bottom of a pool, lake, or ocean. You save the cost of shafting and bearings required by conventional surface-mounted motors.

The new Louis Allis immersible motor is completely leak-tight . . . can operate in fresh or salt water, sewage, chemicals, abrasive cutting oils, etc. It's ideal for vertical or horizontal mounting on pumps, agitators, mixers, and special equipment. ¾ to 40 hp. Send for Bulletin No. 2300. The Louis Allis Co., 436 E. Stewart St., Milwaukee 1, Wis.

SM-110

LOUIS ALLIS

▲ For more details circle NED-303 B on enclosed inquiry slip ▲

See what it means to have
STEEL GUARD Tires
the industrial pneumatics with built-in puncture-barrier

You're looking—up through heavy plate glass—at the kind of shop or yard debris that makes short work of ordinary lift-truck pneumatics. The hazards of the worst brickyard or foundry litter—jagged steel, bricks, nails or what have you—can be reduced to a minimum with STEEL GUARD Tires.

First place, each STEEL GUARD has its own built-in puncture-barrier of heavy, webbed steel cable—right up across the shoulders.

Then, there are the thick, rugged lugs of the STEEL GUARD. They make for a tread design that absorbs most any kind of punishment—provides extra-traction, too.

And remember—these STEEL GUARD Tires are industrial *pneumatics* which mean a smooth ride for driver and cargo — plus exceptional stability and flotation.

Wouldn't it pay you, then, to look into this new kind of pneumatic industrial—the great new STEEL GUARD by Goodyear. Check with your Goodyear Dealer—or write Goodyear, Industrial Tire Sales, Akron 16, Ohio.

STEEL GUARD TIRES BY
GOODYEAR
More tons are hauled on Goodyear Truck Tires than on any other kind

Steel Guard—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

▲ For more details circle NED-304 B on enclosed inquiry slip ▲

CUT PRODUCTION COSTS!
MARK
NAME PLATES
5 TIMES
FASTER

MODEL EMT-2
ELECTRIC TAG TYPEWRITER
A touch of the finger delivers up to 2 tons pressure for deep, legible impressions in metal or plastic tags.

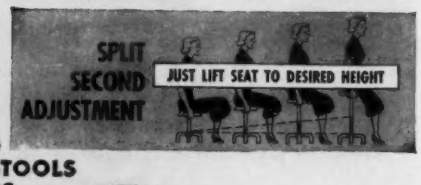
—WITH—
Automark
ELECTRIC TAG MARKING MACHINES

MODEL SRST-2
HI-SPEED
TAG MARKING MACHINE
Automatically marks BOTH constant and serial numbers at any desired speed up to 8,000 tags per hour!
MANUFACTURER'S AGENTS—
Some Territory Still Available
Send Now for Bulletin
DEFIANCE MACHINE & TOOL COMPANY
1920 S. VANDEVENTER Dept. QD ST. LOUIS 10, MO.

▲ For more details circle NED-305 B on enclosed inquiry slip ▲

AJUSTRITE®
CHAIRS AND STOOLS

10 YEAR GUARANTEE



SWINGING BRACKET STOOLS and CHAIRS

FOR MOUNTING ON TABLE, BENCH, WALL OR MACHINE

Seat raises and lowers a total of 8 inches. Bracket swings 15½ inches from attaching plate. Contains all the adjusting features of regular AJUSTRITE chairs. Made of 16 ga. steel tube—electrically welded and equipped with nylon bearings—lifetime lubricated. Tested with 600 lb. load. Special mounting brackets to serve many individual needs.

ADVANTAGES OF SWINGING BRACKET
(a) Allows each worker to swing in as close to his operation as he may care to; (b) keeps chairs off of floors, thus saving sweeping and mopping time; (c) stops interchange of chairs from one department to another.

FREE TRIAL
Use an AJUSTRITE chair or stool for 30 days without obligation. Prove to yourself the many advantages AJUSTRITE offers in comfort, utility and economy. Write today—we'll do the rest.

32 Models for Factories • Schools • Laboratories • Hospitals • Offices

AJUSTO EQUIPMENT CO.
515 CONNEAUT ST. • BOWLING GREEN, OHIO

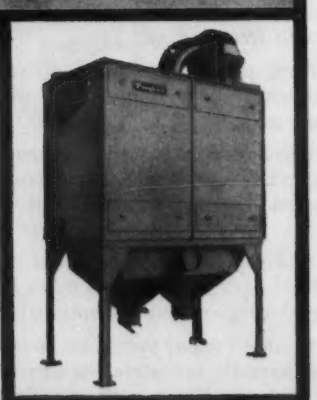
▲ For more details circle NED-306 B on enclosed inquiry slip ▲

For Efficient Dust Collection in Small Applications...

Pangborn Dust Control cuts housekeeping costs, minimizes machine wear, guards employee health and reclaims valuable material for salvage.

Pangborn Unit Collectors—ranging from 200 to 1,000 sq. ft. cloth area—require little floor space. Shipped from stock fully assembled.

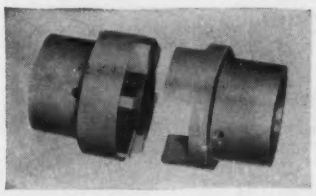
PANGBORN CORP., 2400 Pangborn Blvd., Hagerstown, Md. *Manufacturers of Dust Control and Blast Cleaning Equipment and Rotoblast® Steel Shot and Grit.*



Pangborn CONTROLS DUST

▲ For more details circle NED-307 B on enclosed inquiry slip ▲

FLEXIBLE COUPLING
35 to 700-hp sizes offered

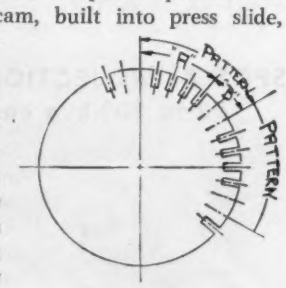


Spring cushion for vibration, shock loads, and misalignment is provided by construction of Model GH flexible coupling. It consists of two metal bodies with interlocking jaws separated by nonmetallic load cushions. Coupling is made in 35 to 700-hp sizes at 1800 rpm and for shafts with diameters up to 5½ in. Individual inserts are easily removed without disturbing driving or driven units. There is no metal-to-metal contact. • Gerbing Mfg. Corp., Elgin, Ill.

▲ For more details circle NED-308 B on enclosed inquiry slip ▲

SKIP PUNCHING DEVICE
programs press punching pattern

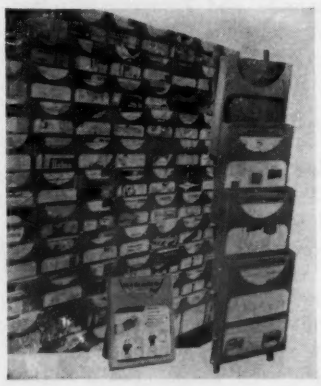
Skip punching device provides a repetitive pattern of punched and skipped strokes on power presses. It consists of an operating cam, built into press slide, that is actuated by a double-acting air cylinder controlled in turn by a repeat counter which can be set for the required pattern. Although an integral part of the press, device can be disengaged and the press operated in conventional manner. Sketch shows how simple patterns can be accommodated for any values of A or B, provided one of the two is less than 10.



• Emhart Mfg. Co., Hudson Div., Hudson, N. Y.

▲ For more details circle NED-309 B on enclosed inquiry slip ▲

LITERATURE HOLDER
mounts flush to wall or on easel

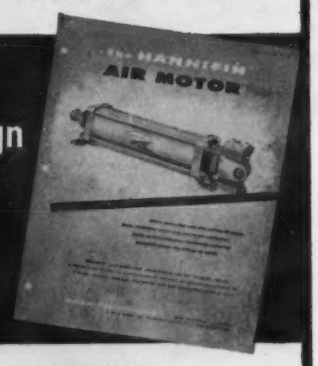


Made of sheet metal with an enamel finish, this literature pouch is 1½ in. deep and has a cutaway front opening to show literature titles. It can be mounted flush to the wall, overlapped or decked as shown, or placed on easel backs for individual display on table or counter. Standard size takes 8½ x 11-in. pieces of literature. Other sizes are available. • Smith System Mfg. Co., 212 Ontario St. S.E., Minneapolis 14, Minn.

▲ For more details circle NED-310 B on enclosed inquiry slip ▲

NEW BULLETIN ON HANNIFIN AIR MOTORS

New rugged design ...with long-life features!



New cylinder design with hardened *and* chrome plated piston rod, one-piece non-score piston construction, and simplified transfer tube.

New valve design with stainless steel reciprocating disc, guarantees against solenoid coil burn-out. Also features built-in speed controls with self-locking adjusting screws.

This compact power-package can cut your production costs. Write for your copy of the bulletin today.

HANNIFIN COMPANY
527 South Wolf Road • Des Plaines, Illinois
A DIVISION OF PARKER-HANNIFIN CORPORATION

▲ For more details circle NED-311 B on enclosed inquiry slip ▲

NEW and NEEDED!

EAGLE SAFETY PLUNGER CANS
safe cleaning with flammable liquids . . . pressure forces measured fluid to dampen swab . . . FM approved . . . 1, 2 qt., 1 gal.

EAGLE SAFETY BENCH CANS
for cleaning small parts safely, quickly . . . approved by Factory Mutual . . . 1, 2 qt., 1 gal. capacities.

EAGLE Style I SAFETY CANS
approved by Underwriters Laboratories and FM . . . safe for handling all flammable liquids . . . 1, 2 qt., 1 gal. with trigger handle; 2½, 5 gal. with free-swing handle.

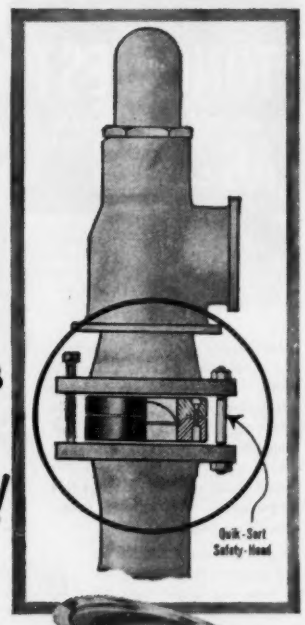
ORDER FROM YOUR SUPPLIER

Write for free catalog showing Complete Eagle Line . . . Eagle products are also available in Canada

EAGLE MANUFACTURING CO., Wellsburg, W. Va.
Serving the Trade Since 1894

▲ For more details circle NED-312 B on enclosed inquiry slip ▲

You Can Prevent These Three Relief Valve Problems With a BS&B Quik-Sert *Safety Head!*



1. Leakage
2. Corrosion
3. "Freeze-ups"

The BS&B Quik-Sert Safety Head isolates the relief valve from the product under pressure. Mounted under the valve inlet, it is "bottle tight" until overpressure reaches the rated pressure of the preformed metal rupture disc.

The Quik-Sert Safety Head flange assembly is located inside the bolting of companion flanges. Easy insertion and removal is accomplished through the use of jack screws.

A BS&B Quik-Sert Safety Head Under The Relief Valve Gives You These Advantages
- Stops product loss at normal operating pressures
- Assures proper valve function at set pressure
- Lowers maintenance costs
- Reduces shutdown time

BS&B engineers will be glad to evaluate your pressure system for proper applications of the Quik-Sert Safety Head.

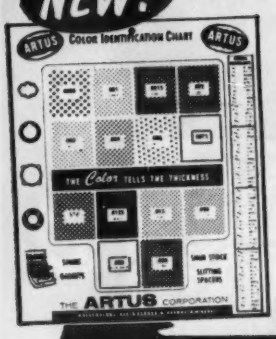
Write, wire or phone...

BS&B — OVER 60 YEARS — ANOTHER EXAMPLE OF PRODUCT LEADERSHIP

BLACK, SIVALLS & BRYSON, INC.
Safety Head Division, Dept. 2-GD2
7500 East 12th Street,
Kansas City 26, Missouri
Telephone: BEnton 1-7200

▲ For more details circle NED-313 B on enclosed inquiry slip ▲

NEW!



A 'MUST' WHEREVER SHIMS ARE USED

ARTUS PLASTIC SHIMS

THE COLOR TELLS THE THICKNESS

FREE Write for this handy COLOR CHART, today!

Artus Plastic Shims are real time savers in production and maintenance. They're used by many of America's best known industrial corporations because they're more efficient, more convenient, always available.

Custom shapes to your specifications.

Write for Samples and Literature or Mail Blueprint for Test Sample.

THE ARTUS CORPORATION
201 South Dean St. • Englewood, New Jersey
LOwell 7-0900
formerly INDUSTRIAL PRODUCTS SUPPLIERS

▲ For more details circle NED-314 B on enclosed inquiry slip ▲

New Plastic Material! Repairs Floor Cracks!

A new plastic material formulated for the specific purpose of repairing floor cracks and preventing surface deterioration is announced by The Monroe Company, Inc., Cleveland.

Before

After

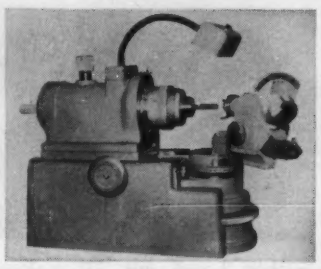
Known as "Jiffy Floor", it is a fine granular ready-to-use plastic product that can be applied without interfering with production or traffic. It readily fills hairline cracks, shallow holes, spalled floors or expansion joints. Immediately after application, it will withstand heaviest loads.

Jiffy Floor contains no asphalt, cement, sand or gravel. It will not crack, crumble or curl . . . is not affected by temperature changes . . . can be applied indoors or out.

Jiffy Floor is waterproof, dustless, skidproof and noiseless. Available in 5-10-30 and 55-gallon drums, ready for easy use. For further information, write *The Monroe Company, Inc.*, 10707 *Quebec Avenue, Cleveland 6, Ohio.*

▲ For more details circle NED-315 B on enclosed inquiry slip ▲

CUTTING TOOL CHECKER for drills, reamers, taps, mills



Monocular zero-paralax optical system with magnifications up to 40 X is incorporated in the Tool Analyser for inspection of tool geometry. The tool to be checked is accurately chucked in relation to index, view angle, and dimensional scales. Readings to 0.0001 in. can be taken. Device accommodates drills, reamers, end mills, broaches, counterbores, hobs, and other small tools. All readings are made at one setting without transfer errors. Analyser accommodates shank diameters from 0.006 to 1⅜ in. with standard equipment. Special fixtures broaden this range. • **Stocker & Yale, Inc.**, 40 Green St., Marblehead, Mass.

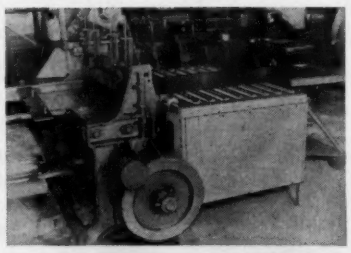
▲ For more details circle NED-317 B on enclosed inquiry slip ▲

WELDERS' GOGGLES feature angled lenses

With only a slight tilt of the head, wearer of Seesall Cover - Spec welders' goggles gets a clear view of the entire work area. Blind spots are eliminated. Goggles utilize angled lenses to aid bifocal wearers. They fit comfortably over the new, larger spectacles, have indirect ventilation and a flexible leather nose guard, and are lightweight. • **Glendale Optical Co.**, 600 W. Merrick Rd., Valley Stream, N. Y.

▲ For more details circle NED-318 B on enclosed inquiry slip ▲

AUTOMATIC SHEAR FEED sheet is fed rapidly, accurately



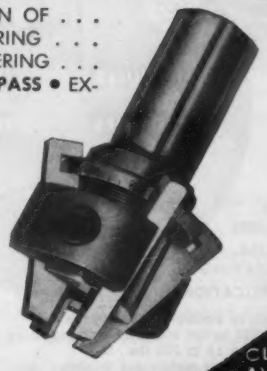
Uncut sheet stock is placed in the AAC shear feed, and the operator handles only the sheared blank after automatic feeding. The sheet is rapidly and accurately fed into the front of the shear through the blades, then is automatically driven back against the front gage for shearing. After the blank is removed, the remainder of the sheet is driven against the gage and the cycle repeats. Addition of automatic transmission propels the remainder of the sheet away from the shear blades for trim cutting the blank. Caster-mounted feed is offered with automatic forward and reverse transmission, or with reverse action only. • **American Actuator Corp.**, Box 384, Stamford, Conn.

▲ For more details circle NED-319 B on enclosed inquiry slip ▲

KUTMORE ADJUSTABLE HOLLOW MILLS

Get Speed! Get Precision!

• ANY COMBINATION OF . . . TURNING . . . TAPERING . . . FACING . . . CHAMFERING . . . TREPANNING IN **ONE PASS** • EXCLUSIVE **MICROMETER** ADJUSTMENT FEATURE FOR RAPID SET-UP • CUTTING CAPACITIES FROM 1/32" TO 2" DIAMETER IN STANDARD STOCK.



Our Engineering Department is at your disposal on your Hollow Mill problems.

1625 CLINTON AVE. NO.

CARL WIRTH & SON, INC.

Write For Catalog 20NE

ROCHESTER 5, N. Y.

▲ For more details circle NED-321 B on enclosed inquiry slip ▲

"Slickest visual control..."

states *Factory* magazine. Entries made directly with marking pencil on a rolling "Mylar" sleeve which *moves with time*, bringing deadlines constantly closer. Entries easily erased.

Send for *FREE GUIDE to Control Methods* with full-scale, sample chart section

Shows how Rol-a-chart controls 22 different items: orders, production, data processing, maintenance, dispatching, sales, etc. Also expert consultation service with no obligation.

Rol-a-chart Division

Conley, Baltzer & Steward, 494 Jefferson Street, San Francisco 9

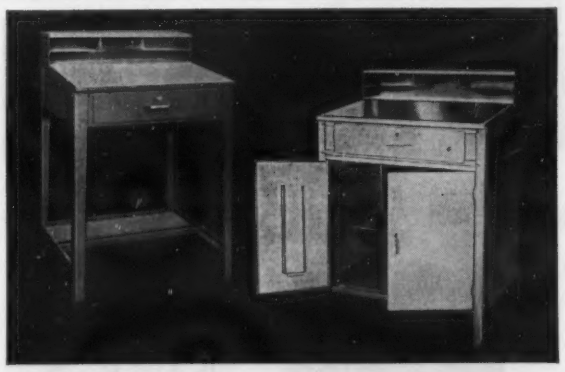
▲ For more details circle NED-322 B on enclosed inquiry slip ▲

REPUBLIC Wedge-Lock Storage Units ...DESIGNED FOR HEAVYWEIGHTS

Here's shelving designed for the heavyweights—easy to load, unload from either side. The heavier the load, the tighter the grip, because Wedge-Lock® construction includes a post that will not bend, a reinforced shelf that does not sag, and a concealed sway-proof joint. Unlimited shelf arrangements. Let Republic Storage Engineering Specialists help you plan. Write today.

REPUBLIC STEEL
BERGER DIVISION
1034 Belden Ave. • Canton 5, Ohio

▲ For more details circle NED-316 B on enclosed inquiry slip ▲



REPUBLIC Shop Equipment BUILT FOR SERVICE and CONVENIENCE

Republic Shop Equipment . . . shop desks, work benches, tool cabinets, and other equipment . . . is designed and built for heavy-duty service and shop convenience.

The Republic Shop Desk, for example, offers sit-down convenience with stand-up comfort. Plenty of drawer and storage space with flat key-type locks.

To learn more about Republic built-to-take-it shop equipment, call your Republic representative, or write direct.

REPUBLIC STEEL
BERGER DIVISION
1034 Belden Ave. • Canton 5, Ohio

▲ For more details circle NED-320 B on enclosed inquiry slip ▲

REPUBLIC Steel Lockers New Bright, Cheerful Colors

Give your change, wash, and dress centers a new look with Republic Steel Lockers—now available in three new bright and cheery colors. Bonderized feature provides a superior base for the Willow Green, Beige, or Gray enamel finish.

Bonderizing protects against rust, corrosion . . . confines damage due to bumps, scratches, and abrasion of every day service to the site of the injury. Call your Republic representative, or write.

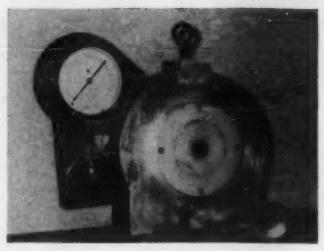
REPUBLIC STEEL
BERGER DIVISION
1034 Belden Ave. • Canton 5, Ohio

▲ For more details circle NED-323 B on enclosed inquiry slip ▲

THE BEAD CHAIN MANUFACTURING CO.
16 Mountain Grove St., Bridgeport, Conn.

▲ For more details circle NED-324 B on enclosed inquiry slip ▲

BOLT TENSILE TESTER
measures loads up to 225,000 lb



Model K precision calibrating unit is designed to test tensile strength of bolts and studs with up to 2½-in. diameters. Bolt loads up to 225,000 lb can be measured. Unit is portable, direct reading, self-contained, and accurate within 2 per cent. It makes it possible to check the proper application of large size bolts. • Skidmore-Wilhelm Mfg. Co., 442 Green Rd., Cleveland 21, Ohio.

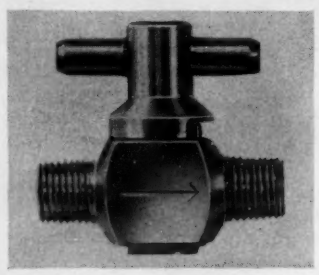
▲ For more details circle NED-326 B on enclosed inquiry slip ▲

HEAVY-DUTY LIFT STACKER
lifts 17-ton loads 16 ft high

Power to lift 17 tons is featured by the three-wheel FT Stacker, a fork-lift truck designed to handle steel, logs, prestressed concrete, and similar loads. Power is supplied by a 195-hp diesel engine which drives alternating and direct-current generators geared only to the two front wheels. Rear third-wheel is used only for stability and steering. The 5-ft long forks, available with or without gripping "tusks" as shown, will lift loads 16 ft above ground. Kicker chains for ejecting loads are also optional. • R. G. LeTourneau, Inc., 2399 S. MacArthur, Longview, Tex.

▲ For more details circle NED-327 B on enclosed inquiry slip ▲

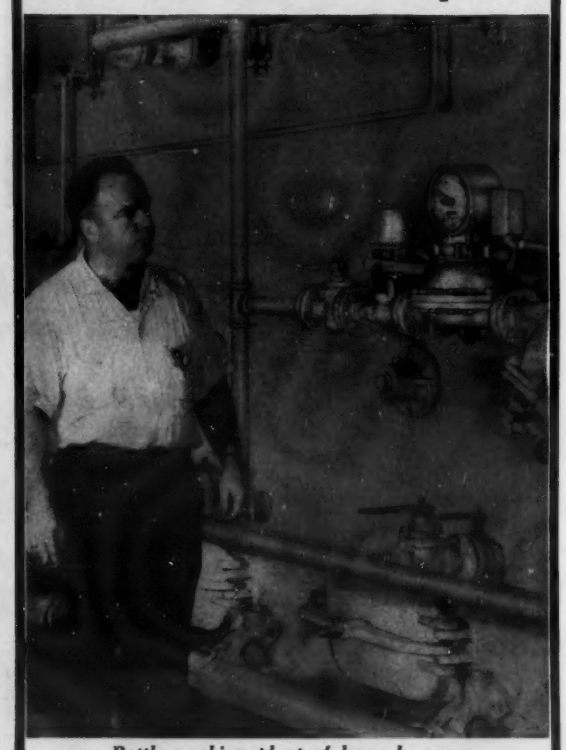
MINIATURE SHUTOFF VALVE
for vacuum or pressure service



O-ring on cylindrical face of the straight plug makes this 9500 Series miniature shutoff valve leakproof in vacuum or pressure service. Valve is available in brass or Type 303 stainless steel with either male or female, ⅛ or ¼-in. connections. Direction of T handle instantly indicates valve position. Handle can be color-coded for oxygen, air, nitrogen, hydraulic fluid, water, oil, and other fluid service. Instrumentation, inert gas test stands, hydraulic clamps, and jacks are typical applications. • Circle Seal Products Co., 2181 E. Foothill Blvd., Pasadena 8, Calif.

▲ For more details circle NED-328 B on enclosed inquiry slip ▲

HOW TO METER
Hard to Handle Liquids



Bottle washing plant of large brewery

and do it Automatically...

Set for 175 Gallons — Get 175 Gallons

That *was* the problem at a large brewery. The liquid was caustic soda. It had to be measured accurately and added to the water in the bottle-washing machine to remove labels and foreign matter.

The liquid caustic was stored in two large tanks. By piping the liquid through Niagara Electricontact Meters, it was only necessary for the operator to set the meter dial hand to the desired number of gallons of caustic, then press a push button to start the delivery to the washing machine. Upon delivery of the preset quantity, the switch in the Electricontact Meter closes a solenoid to stop the flow of caustic. Simple . . . accurate . . . and fool-proof!

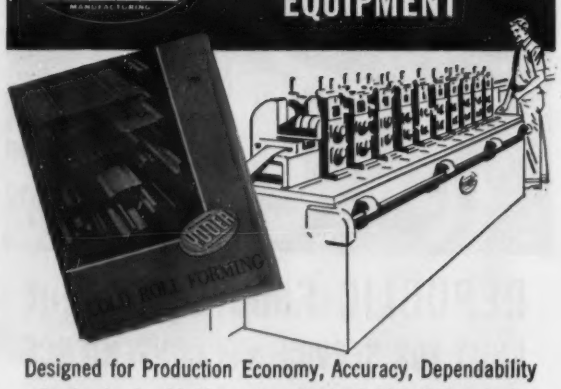
Let us show you how to solve your liquid metering problem to give you cost-saving, time-saving accuracy by automation. Write for complete information.

BUFFALO METER COMPANY
INCORPORATED
2903 MAIN STREET • BUFFALO 14, NEW YORK

▲ For more details circle NED-325 B on enclosed inquiry slip ▲

YODER ENGINEERING MANUFACTURING

COLD ROLL-FORMING EQUIPMENT



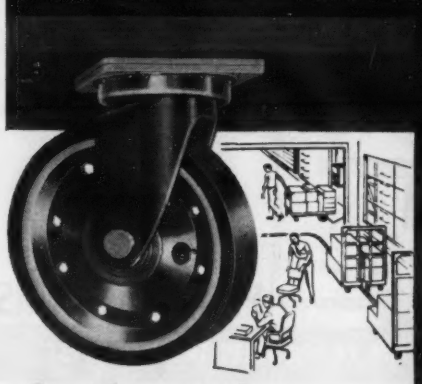
Designed for Production Economy, Accuracy, Dependability

Send today for this 92 page handbook "Cold Roll-Forming". It thoroughly covers production of structural and ornamental shapes from stock up to ½" thick . . . reviews economic and mechanical possibilities of cold roll-forming . . . illustrates end uses and applications of roll-formed shapes.

THE YODER COMPANY
5547 Walworth Avenue • Cleveland 2, Ohio
Please send my copy of Yoder's "Cold Roll-Forming"
NAME _____
COMPANY _____ POSITION _____
ADDRESS _____
CITY _____ STATE _____

▲ For more details circle NED-329 B on enclosed inquiry slip ▲

Replace with Colson Casters



Speed up work . . .
Eliminate breakdowns
Save floor damage

Send for new Colson catalog C101 . . . contains over 2000 job rated test proven money saving Casters.

Colson — Contact your local representative or distributor or write to — COLSON'S 75th YEAR OF PROGRESS

THE COLSON CORPORATION
7 S. Dearborn Street CHICAGO, ILLINOIS

▲ For more details circle NED-330 B on enclosed inquiry slip ▲

Eliminate costly factory-built "tees" and "elbows"

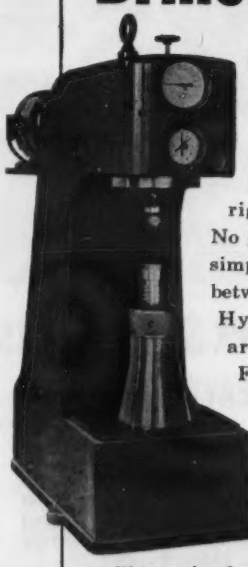
cut installation and maintenance costs...

THIS NEW LOW IMPEDANCE BUS DUCT features a unique splicing system... permits "tees" and "elbows" to be built on the job using standard bus duct sections...without the premium cost of special factory-built units. Splicing at "tees" (A), "elbows" (B) and straight section joints (C) reduced by as much as 50%. Result: lower initial costs, less delays, faster installation, less maintenance, higher salvage value. Available in Feeder and Plug-in types. Write for Bulletin 3-125: Federal Pacific Electric Company, General Offices: Dept. 335, Newark 1, New Jersey.

FPE FEDERAL PACIFIC ELECTRIC COMPANY
The Best in Electrical Distribution and Control Equipment

▲ For more details circle NED-331 B on enclosed inquiry slip ▲

Brinell Testing
at Production Line Speeds



Test round or flat parts fast, right in the production line. No grinding necessary. Operator simply notes that needle reads between pre-set tolerance hands. Hydraulically applied standard Brinell loads are used. Foot control allows operator to test parts as quickly as he can move them through.

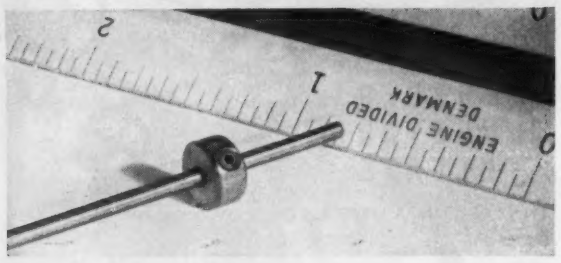
Long stroke models also available.

Write today for more information

DETROIT TESTING MACHINE COMPANY
9394 Grinnell Avenue, Detroit 13, Michigan

▲ For more details circle NED-332 B on enclosed inquiry slip ▲

NOW! For miniaturized assemblies...



HALLOWELL steel collars in microsizes

- 1/16, 3/32, 1/8 inch bore
- Fitted with UNBRAKO set screws for positive locking action
- Precision machined from finest bar stock
- Extremely versatile—used as thrust collars, locking collars, spacers, cam operators, indexing devices, etc.

Send for Bulletin 868—complete information on all sizes of HALLOWELL steel and cast iron collars.

INDUSTRIAL FASTENER Division **sps**

JENKINTOWN 24, PENNSYLVANIA

▲ For more details circle NED-333 B on enclosed inquiry slip ▲

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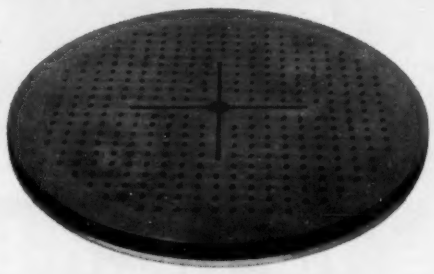
longer disc life, lower grinding costs



Gardner Abrasive Discs

... made to meet your specifications

Send for latest general abrasive catalog.

GARDNER abrasive discs

GARDNER MACHINE COMPANY
460 Gardner St.
Beloit, Wisconsin

▲ For more details circle NED-334 B on enclosed inquiry slip ▲

---

new! Rapistan® APC

pressure - sensing conveyor

ends carton pile-ups

Rapistan APC (adjustable pressure) conveyor reduces damaged cartons and contents by reducing line pressure to the practical mininum. In this photo, the conveyor belt is running, but pressure between cartons is so low that the balloons show almost no compression. The new, safe way to accumulate goods under power in processing, warehousing and shipping operations.

Write for new Bulletin 1200 Illustrating APC Conveyor.

Rapistan® conveying equipment

The RAPIDS-STANDARD CO., Inc.
740 Rapistan Building, Grand Rapids 2, Michigan

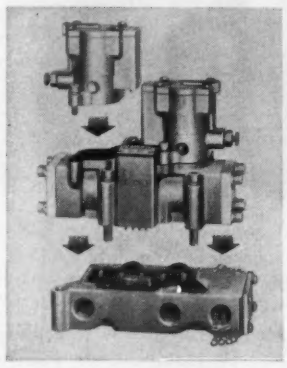
▲ For more details circle NED-335 B on enclosed inquiry slip ▲

INTERCOM SYSTEM
compact unit is transistorized

Proportioned like a book and lying flat on the desk, the all-transistor Chief intercommunication system master unit is less than 3 in. high. Brushed chrome and charcoal gray finish matches modern office decor. A monitoring signal visually indicates to a nonprivate station that it is being monitored. Other features include an incoming chime call, external relay control for high noise level areas, and a reciprocal power supply for use where no electrical outlet is available. Busy signals tell when a given station is in use. • **Talk-A-Phone Co.**, 1512 S. Pulaski Rd., Chicago 23, Ill.

▲ For more details circle NED-336 B on enclosed inquiry slip ▲

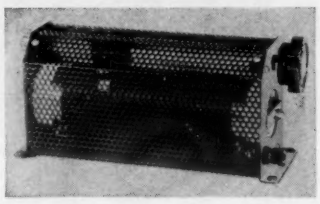
FOUR-WAY CONTROL VALVES
plug-in type units respond fast



Fast, automatic completion of electrical and pneumatic circuits is provided by Speed King 1/2-in. single and double solenoid plug-in type, pilot-operated, four-way control valves. Power connections, made permanently in manifold or sub-base, need not be disturbed for in-service maintenance. Response is fast due to short-stroke, and valves are intended for 35 to 200-psi air service. Pilot plungers and main valve stem are only moving parts. Solenoid coils for alternating or direct-current, any voltage or cycle are available. • **Valvair Corp.**, 454 Morgan Ave., Akron 11, Ohio.

▲ For more details circle NED-337 B on enclosed inquiry slip ▲

CAGED RHEOSTATS
live and hot parts are enclosed



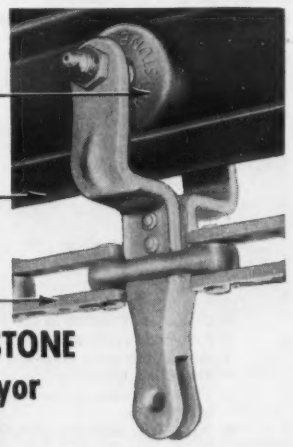
Protective metal cages enclose the top, sides, and bottom of 10-in. Lubri - tact Jagabi screw - drive rheostats. Perforated material with large open area affords efficient cooling. Units for shop, testing, and laboratory use have the same mounting dimensions as open rheostats, varying only in the slight increase in slider height. Ratings range from 0.4 to 25 amp and resistances from 13,100 to 0.8 ohm. • **James G. Biddle Co.**, Dept. 22, 1316 Arch St., Philadelphia 7, Pa.

▲ For more details circle NED-338 B on enclosed inquiry slip ▲

STRONGER TROLLEY AND WHEEL

STRONGER TRACK

STRONGER CHAIN



RAPISTAN®-KEYSTONE Overhead Conveyor is built stronger to perform better

Cut your new overhead conveyor installation costs, reduce your maintenance and operation costs with R-K overhead conveyor. Patented R-K chain has 10-to-1 safety factor. Rugged trolleys handle loads up to 135 lbs. each. Economical 228 systems handle any light to medium duty jobs. Write today for Bulletin R-K 59 showing many examples.

Rapistan®-KEYSTONE, INC.

750 Rapistan Building, Grand Rapids 2, Michigan

▲ For more details circle NED-339 B on enclosed inquiry slip ▲

Adjustable SIGNALS

The new **VIBRATONE** Horn has ample sound output for most any application. In many cases certain areas require less than maximum.

VIBRATONES by a simple adjustment can be tuned down to any desired sound level above a whisper.

VIBRATONES survive continuous duty because they are self-adjusting electrically and mechanically. Sound volume is almost instantly adjustable to your desires.

This is only one of dozens of exclusive and outstanding features of this *new* and *radically different signal.*

The **VIBRATONE** can solve *your* signalling problems. Write for Bulletin #27 today.

FEDERAL SIGN and **SIGNAL** Corporation
13611 S. Western Ave.
Blue Island, Ill.

▲ For more details circle NED-340 B on enclosed inquiry slip ▲

10-DAY TOOL TEST

Discover how Customized Master Power Air Tools are Custom-Sold, Custom-Installed and Custom-Serviced

Master Power Assembly Tools are fitted individually to your job, precision-built and can frequently be serviced on the spot. One tool with attachments can do a variety of jobs. Choose from a complete line of assembly, abrasive, percussion air tools and air hoists. Write today for a 10-day tool test.

Master Power

CORPORATION • Bedford, Ohio

A Black & Decker subsidiary

▲ For more details circle NED-341 B on enclosed inquiry slip ▲

Rapistan®

REMOVES the KING-PIN

To give better load distribution

NEW! 3100 Series gives you all these benefits

Longer Life—new design already has demonstrated notable performance superiority over other single ball race casters.

Easier Swiveling—no binding . . . no metal - to - metal friction, because there is NO king pin!

Better Load Distribution—more dependable service, because the hardened swivel bearing raceway supports the load. Resists ball indentation.

Simplifies Your Caster Problems—serves scores of general duty applications up to 500 lbs. capacity. Available with six wheel sizes ranging from 2½" to 6" diameter.

Write for 3100 Series Bulletin

Rapistan® conveying equipment

The RAPIDS-STANDARD Co., Inc.
Rapistan Bldg.
761 Grand Rapids 2, Michigan

▲ For more details circle NED-342 B on enclosed inquiry slip ▲

Fluid-Feed
ROTARY TABLE

Feeds parts fast! Combines with other stock units for easy, cost-cutting automation.

Write for complete catalog today!

MEAD SPECIALTIES COMPANY

4114 N. Knox Ave., Dept. NA-20, Chicago 41, Ill.

PATHFINDER IN AIR POWER AUTOMATION

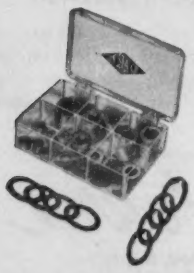
▲ For more details circle NED-343 B on enclosed inquiry slip ▲

IT'S A FACT
YOU CAN DO BETTER WITH THE BUILT-IN QUALITY OF

DE-STA-CO

SPACING PRODUCTS

BECAUSE . . . Extra precision in materials, dies, manufacturing and finishing . . . extra convenience of DE-STA-CO packaging . . . top quality which pays off! You'll actually be money and quality ahead by specifying DE-STA-CO Spacing Products.



ARBOR SPACERS, SHIMS, SHOULDER-SCREW SPACERS

Arbor Spacers in complete range of sizes and thicknesses from .001" to .125", with keyway, special rolled finished steel; shims same but without keyway. Same high precision and quality in Shoulder-Screw Spacers for simplifying die adjustments. Spacing Collars, hardened and ground to close tolerance in many popular diameters, thicknesses from 1/8" to 3", edges chamfered.

FEELER STOCK (in coils and strips)

Made from tempered stock, rolled to close limits. 1/2" x 25' or 12" finished lengths, in thicknesses from .001" to .032". Major uses—precision fitting, checking clearances, inspection and production work.

SHIM STOCK

Steel or brass selected materials rolled to close limits, oiled, clean, flawless (entirely free from burrs). Rolls 6" x 120" (longest available) in thicknesses .001" to .032" in handy dispenser cartons. Sheets 6" x 12" in standard assortment packages of 12 gauges. Also packages of one thickness.

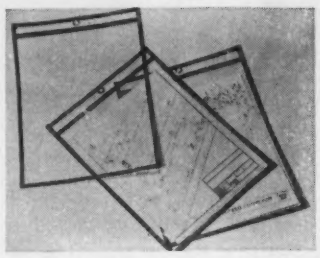
FOR MORE FACTS . . .
WRITE FOR COMPLETE BROCHURE AND PRICE LIST!

YOU CAN DEPEND ON DE-STA-CO

DETROIT STAMPING COMPANY
DE-STA-CO
350 MIDLAND AVENUE
DETROIT 3, MICHIGAN

▲ For more details circle NED-344 B on enclosed inquiry slip ▲

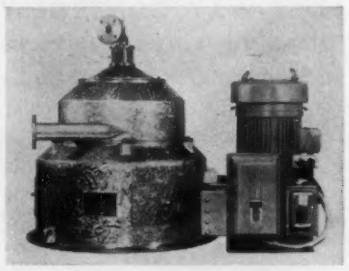
SHOP TICKET HOLDERS
keep tickets clean and legible



These clear acetate plastic holders will protect work tickets, blueprints, or diagrams which accompany a part. They are made in a range of sizes, and have bound edges plus a reinforced grommet for fastening to part or machine. Ticket is kept clean and legible. Samples are available. • **Industrial Transparent Products Corp.**, 77 Mill Rd., Freeport, L. I., N. Y.

▲ For more details circle NED-345 B on enclosed inquiry slip ▲

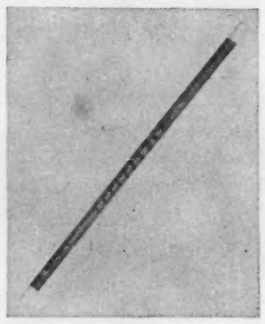
CENTRIFUGES
capacities up to 70 tons per hour



Slurries containing relatively large sized crystalline solids as well as fibrous pulps, with residual moisture of 1 per cent or less, are handled by this line of conical screen centrifuges. Four sizes have continuous solids dehydration capacities up to 70 tons per hour. A wide range of degrees of liquid clarity and/or solids dryness can be achieved by changing the perforated screen and varying rotation speed. Changing from one product to another is easily accomplished. • **Sharples Corp.**, 2300 Westmoreland St., Philadelphia 40, Pa.

▲ For more details circle NED-346 B on enclosed inquiry slip ▲

FURNACE HEATING ELEMENT
for temperatures up to 2867° F



Temperatures up to 2867° F are reached by Crusilite silicon carbide heating elements for electric furnaces. Elements are fabricated in one piece with the hot zone in the form of a spiral. Overall lengths range up to 63 in. with hot zones from 7 to 40 in. In addition to the general-use Type X, element is produced in Types T, DS, and MF. Type T, in 10 and 14-mm diameters, has metal terminal caps shrunk on the ends for easy connection. Type DS has double spiral hot zone and requires connection only at one end. Hollow tube Type MF is designed for heating within the element cavity. • **Morganite Inc.**, Crusilite Dept., 3302-3320 48th Ave., Long Island City 1, N. Y.

▲ For more details circle NED-347 B on enclosed inquiry slip ▲

modernize with
HydroLectric

A GREAT NAME IN LIFT TRUCKS

- Two driving wheels instead of one
- Braking with handle in any position
- Automatic parking brake (optional)
- Sealed alloy gears instead of chains
- Sealed ball-bearing rollers in masts
- 100% more steering ease with two wheel drive
- Power unit removal complete in 20 minutes
- Greater tire capacity equivalent load ratings

LIFT TRUCKS INC. W.W.W. STUEBING CINCINNATI

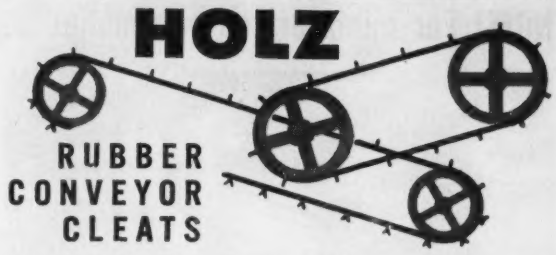
Write for Bulletin KHL

A TRUCK FOR EVERY PURPOSE AND MATERIAL

LIFT TRUCKS, INC.
CINCINNATI 14, OHIO

▲ For more details circle NED-348 B on enclosed inquiry slip ▲

HOLZ



RUBBER CONVEYOR CLEATS

INSTALL IN A JIFFY FOR LOW-COST SERVICE!

BOLTA-FLITE

PIVOT-FLITE

"If it's rubber we can make it!" . . . serving industry for a quarter-century

A few minutes, a punch and a screwdriver—are all you need to install efficient rubber lift-cleats for your conveyor system. Install them without removing the belt! There's a style for your particular need, too!

HOLZ Bolta-Flite cleats bolt solidly to chain, fabric or metal systems, for long term **heavy duty** lifting power at minimum cost.

HOLZ Pivot-Flite, for medium and light duty, hinge on stainless steel pins—attach to belt with patented rubber fasteners to relieve stress when passing over small diameter pulleys: increase belt life!

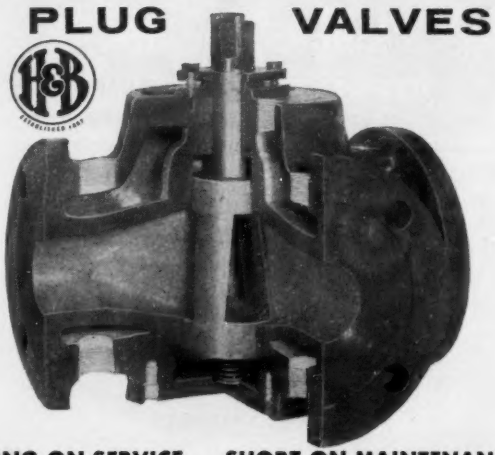
HOLZ also offers **Vulca-Flite** cleats, permanently vulcanized to belt covers to your specification. Side flanges and special belt attachments available.

Whatever your product, there's a precision-made HOLZ rubber cleat to handle it with firm, yet gentle care. Get the full story: write for details today!

HOLZ RUBBER COMPANY, INC.
1135 SOUTH SACRAMENTO STREET, LODI, CALIFORNIA

▲ For more details circle NED-349 B on enclosed inquiry slip ▲

Jacketed Spring Loaded
PLUG VALVES



LONG ON SERVICE . . . SHORT ON MAINTENANCE

H & B's new fully jacketed spring loaded plug valves feature an inverted tapered plug inserted and lapped into the housing from the bottom of the valve—then spring loaded. The spring wedges the plug to a perfectly tight seal, eliminating troublesome leaks. Easy to operate—no big handwheel . . . no freeze . . . no "breaking loose" necessary. Easy to clean. Made in two port or multi port design, with any special stop arrangement desired.

Available in 2-way or straight, 3-way or angle, also air cylinder operated—all sizes and types. Bulletin J-57 sent on request.

HETHERINGTON & BERNER INC.
745 KENTUCKY AVE. INDIANAPOLIS 7, IND.

▲ For more details circle NED-350 B on enclosed inquiry slip ▲

Lengthen Blast Cleaning Nozzle Life

with
BORIUM Nozzles

Here's the blast cleaning nozzle that halts wear! BORIUM (pure cast tungsten carbide) Liners resist cut-outs and orifice enlargements . . . retain original blast velocity, concentrate a tight pattern on the work. You use less compressed air—save wear and tear on equipment, cut costs and get more work done . . . faster! One BORIUM Nozzle outlasts hundreds of cast iron nozzles, avoids constant changes. Get the facts. Get BORIUM . . . *the nozzle that's guaranteed 300 hours when cleaning with silica sand* . . . is highly efficient with all abrasives.

FREE CIRCULAR! Shows standard and special BORIUM Nozzle designs.

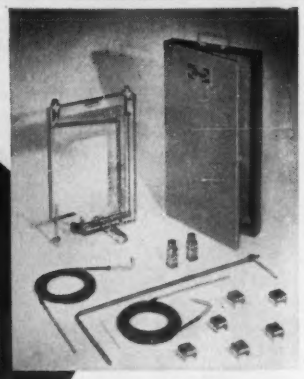
STOODY COMPANY
11992 East Slauson Avenue, Whittier, California

▲ For more details circle NED-351 B on enclosed inquiry slip ▲

Dwyer CONTROLS & GAGES

AIR VELOCITY METER No. 400

One Instrument Tells Both Air Velocity and Static Pressure!



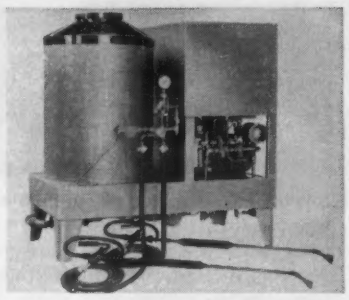
- Reads directly in feet per minute and inches of water.
- Check *all* velocities from 400 to 10,000 F.P.M.
- All static pressures from 0 to 10" of water.

Tests fan and blower discharge and inlet pressures, pressure drop across filters, balances air conditioning systems, etc. Complete kit includes dual purpose manometer, 18" stainless steel pitot tube, Magneclips and all necessary fittings, tubings, instructions and accessories.

Write today for literature and prices.

F. W. DWYER MFG. CO.
P.O. BOX 373-Q MICHIGAN CITY, INDIANA
For more details circle NED-352 B on enclosed inquiry slip

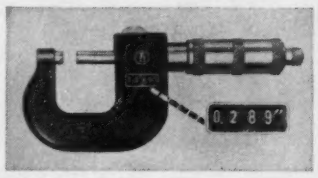
STEAM CLEANER
gas-fired unit is automatic



Available with one or two nozzle-controlled guns, the Model 330 steam cleaner delivers 330 gph of steam cleaning solution at 60 to 90 psi. Cleaning operations can be performed 100 to 200 ft from the automatic, gas - fired unit. When two guns are used, control of each is independent of the other. Solution tank holds 60 gal, sufficient for 4 hr of steady use. The burner is adaptable to natural, butane, propane, or manufactured gas. The 63 x 36 x 62-in. unit sells for $2350. • **Malsbary Mfg. Co.**, 845 92nd Ave., Oakland 3, Calif.

For more details circle NED-355 B on enclosed inquiry slip

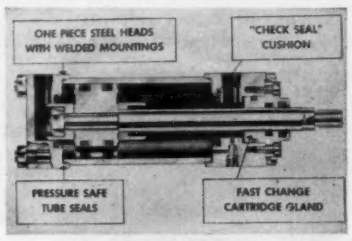
MICROMETER
direct readings shown on dial



Human error is eliminated in using the D.R. (direct reading) micrometer, as it automatically provides exact dial readings from 0 to 1 in. It has a friction stop and lock, and measuring faces of tungsten carbide. A wooden storage case is supplied. The 0 to 1 in. model sells for $35, a 1 to 2 in. model for $38, and the accessory bench stand for $10. • **Glass Laboratories, Inc.**, 863 65th St., Brooklyn 20, N. Y.

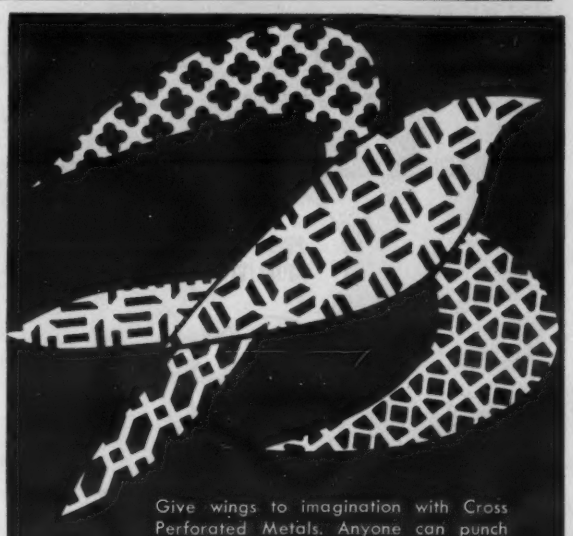
For more details circle NED-356 B on enclosed inquiry slip

POWER CYLINDERS
for air and hydraulic service



Series 1000 Powrmation low pressure air and hydraulic cylinders are available in a wide range of sizes, rod diameters and ends, and strokes to any practical length. Available mountings include side lug, center lug, basic, tie rod, flush side, front flange, rear flange, trunnion, clevis, and double rod styles. Options and accessories further contribute to their versatility. Among their features are mountings welded to one-piece steel heads, pressure-safe tube seal, fast-change cartridge gland, long lubricated bearings, and check cushion seal for heavy or high speed loads. Bores range from 1½ to 8-in. diameter for service up to 250 psi air and 400 to 1000 psi hydraulic. • **Hanna Engineering Works**, 1765 Elston Ave., Chicago 22, Ill.

For more details circle NED-357 B on enclosed inquiry slip

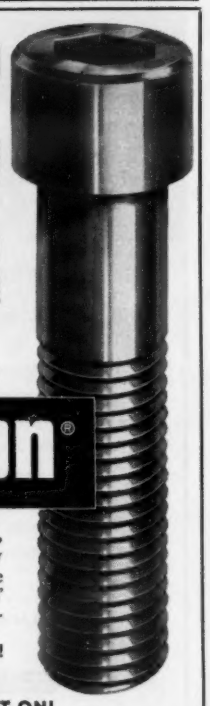


Give wings to imagination with Cross Perforated Metals. Anyone can punch holes in steel, but few can match the variety of Cross designs. Perhaps no one can match the clean, true perforations in Cross patterns. When you need the functional beauty and strength of perforated metal, call or write Cross.

NS NATIONAL STANDARD COMPANY
Cross Perforated Metals
NATIONAL-STANDARD COMPANY
Carbondale, Pa.

For more details circle NED-359 B on enclosed inquiry slip

QUANTITY QUALITY QUICK



. . . *yours with*
SOCKET SCREW PRODUCTS *by*

B-RIGHT-ON®

To get exactly *what* you want, *when* you want it, specify B-RIGHT-ON! Immediate service from selected mill supply houses' stocks. Write for detailed design-dimensional brochure!
COMPLETE SOCKET SCREW LINE!

® *You can do better with* B-RIGHT-ON!
THE BRIGHTON SCREW & MFG. CO.
1957 Reading Road, Cincinnati 2, Ohio

For more details circle NED-353 B on enclosed inquiry slip

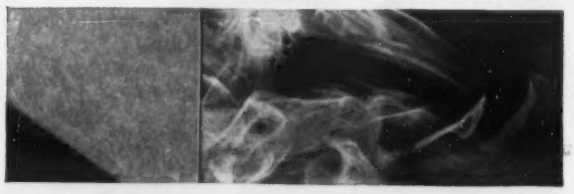
SNAP IT SEE IT

AO Spencer Picture-in-a-minute Photomicrography

When you use the AO Spencer Photomicrographic Camera equipped with the Polaroid Land Camera back, permanent photographs are ready in just 60 seconds. A coupled system lets you shoot what you see . . . quickly and easily. (Here, the No. 682G Camera is used with the new AO Metalstar Metallurgical Microscope . . . an ideal combination). In addition to the Polaroid Land Camera back, you have a choice of 4 other readily interchangeable backs. Write for full information.

American Optical Company
SPENCER Instrument Division • Buffalo 15, New York
For more details circle NED-360 B on enclosed inquiry slip

MOSINEE MAKES MAGIC WITH PAPER



Papers that resist air passage . . . MOSINEE Hydensels

- Have resistance to passage of air (densometer) up to 100 M seconds per 100 C.C.
- Free from shives and other imperfections.
- Can be manufactured with resistance to grease and oil penetration.
- Excellent papers for coating—resist coating penetration.
- Ideal for release coatings—silicones, wax barriers, protective drip sheets, rosin packaging.
- Wide range of basic weights (20 to 70 lb.).
- Quality uniform from roll to roll . . . carload to carload.

FREE DATA FILE

Write Dept. NED-2.
MOSINEE PAPER MILLS COMPANY
Mosinee, Wisconsin
For more details circle NED-354 B on enclosed inquiry slip

MOSINEE MAKES MAGIC WITH PAPER

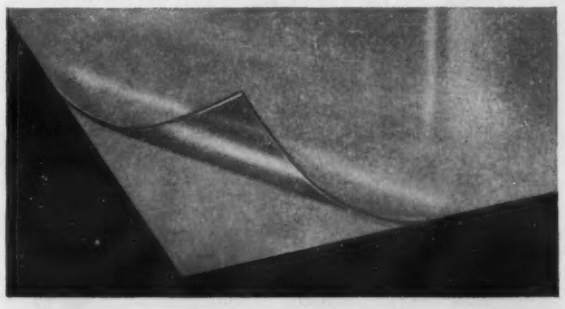
Twisting papers—custom-made to your needs

- Bleached or unbleached . . . natural or in a variety of colors . . . creped or flat tissue . . . with special characteristics such as controlled wet strength and mold-proof, flame-resistant qualities, etc.
- High tensile strength and tear resistance. Carefully controlled caliper and apparent density. Free from shives and other imperfections.
- Made for products such as twine, seat covers, open-mesh bags, welting cord, electric wire coverings, rug yarns, etc.
- Basis weight, caliper and physical strength are uniform from roll to roll . . . from carload to carload.

FREE DATA FILE

Write Dept. NED-2.
MOSINEE PAPER MILLS COMPANY
Mosinee, Wisconsin
For more details circle NED-358 B on enclosed inquiry slip

MOSINEE MAKES MAGIC WITH PAPER



Laminating and coating papers

- Developed to your requirements for performance under conditions of moisture, mold, fire, low temperatures, etc.
- Ideal for laminating with foil, glassines, films, etc. . . . for coating with waxes, plastics, resins, organosols, plastisols.
- Uniformly hard, sound rolls without soft spots or corrugations. Free from shives, other imperfections.
- Basis weight and caliper across the sheet plus other specific characteristics will be uniform from roll to roll . . . from carload to carload.

FREE DATA FILE

Write Dept. NED-2.
MOSINEE PAPER MILLS COMPANY
Mosinee, Wisconsin
For more details circle NED-361 B on enclosed inquiry slip

PALMETTO. PACKINGS

Perfect Combination

PREMIUM QUALITY

COMPETITIVE PRICE

Now—it costs you no more for Palmetto Packings than others of lesser quality. Get the perfect combination of price and quality from your authorized Palmetto distributor. For the name of the supplier nearest you refer to our insert in Thomas' Register—"Packing Section".

Write us for descriptive literature.

GREENE, TWEED & CO.
NORTH WALES, PA.

▲ For more details circle NED-362 B on enclosed inquiry slip ▲

3 New, Improved Thread-Cutting Screws from Parker-Kalon!

Whatever the material, whatever the requirements, there's a new, improved P-K thread-cutting screw that's just right for your application. The five cutting flutes on the new, improved P-K Type "F" and "BF" reduce pressure development by 80 percent! The completely formed threads on these screws have sharper cutting edges, fully formed threads and 5 deep flutes that are of continuous depth. These features make for better clearance of the accumulated material and assure minimum stresses in driving and avoid the possibility of stripping or galling.

New, Improved P-K® Type F* . . . Ideal for friable, granular, or brittle material. For ferrous or non-ferrous castings, bronze or brass forgings, heavy gage sheet metals, structural steel, plastics, or resin-impregnated plywood.

"PENTAP" the New, Improved P-K Type B-F* . . . For comparatively thin sections and bosses in friable and brittle plastics.

Combines the five thread-cutting flutes of the Type F screw with the coarse pitch, widely-spaced threads of the P-K Type B. It distributes cutting pressure evenly, lets chips drop to the bottom of the hole, prevents cracking of the material.

The New P-K Type L† A completely new and improved tapping screw developed for use in Nylon. Functions as a combination thread-cutting and thread-forming screw, cutting a small amount of the Nylon to allow the full diameter threads to form. Offers a particular advantage in Nylon assemblies which must be disassembled for service, because *it can be readily removed and replaced without stripping or galling.*

And don't forget . . . P-K can provide all types of SEMS and Pre-assembled Fastener-Washer Combinations. Send for your FREE Test-Pak of P-K Sems and new, improved Thread-cutting Screws Today!

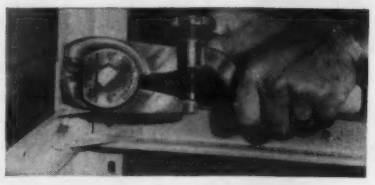
PARKER-KALON®
fasteners

PARKER-KALON DIVISION, General American Transportation Corporation, Clifton, New Jersey • Offices and warehouses in Chicago and Los Angeles.

*Patent Pending †U. S. Patent 2,350,348

▲ For more details circle NED-363 B on enclosed inquiry slip ▲

NUT SPLITTER
cuts nuts 7/8 in. across flats



Rusted, frozen nuts measuring up to 7/8 in. across flats can be split off quickly with the Swivel Jaw Nut Splitter. Swivel blade is placed against side of nut, and power screw is turned by hand until jaw is tight, then tightened with wrench until pressure splits the nut. Bolt remains undamaged. Swivel blade can be turned with fingertips to cut at any angle. • **H. K. Porter, Inc.,** 74 Foley St., Somerville 43, Mass.

▲ For more details circle NED-364 B on enclosed inquiry slip ▲

ULTRASONIC DEGREASER
cleans parts without dismantling

Metal chips, grease, and certain insoluble soils are quickly and thoroughly removed from intricate parts by the Model AC-25 Sonogen ultrasonic degreaser. Small motors, electronic subassemblies, and bearings are cleaned without dismantling. After immersion in the ultrasonic degreasing tank, work is spray-rinsed by hand, placed in the vapor zone, then removed clean and dry. The self-contained unit requires only water and 110-v, 60-cycle ac connections. All parts in contact with solvent are stainless steel or TFE plastic. Cleaning tank is 10 x 8 x 8 in. • **Branson Ultrasonic Corp.,** 40 Brown House Rd., Stamford, Conn.

▲ For more details circle NED-365 B on enclosed inquiry slip ▲

CHAIN LUBRICANT
in self-spraying containers

The 16-oz self-spraying container of open chain lubricant allows fast, easy application to conveyor, elevating, and transmission chains. Formulation combines a penetrant, lubricant, and rust-preventive to lengthen chain life. It penetrates rusted and corroded areas and produces a smooth oily texture suitable for any climate. Free 16-oz trial can is offered. • **Whitmore Mfg. Co.,** 3816 Iron Court, Cleveland 4, Ohio.

▲ For more details circle NED-366 B on enclosed inquiry slip ▲

FREE CABINETS!
Included at no extra cost with each complete or sectional order of the new DUNDICK DeLuxe Precision Pins

THE PIN WITH A MILLION USES

- Core Pins
- Perforators
- Gages
- Set-up Pins
- 2" Long

$1.25 per pin in lots of 10 or more in your choice of sizes.

721 sizes—from .030 to .750

GUARANTEED ACCURACY within a tolerance of plus or minus fifty millionths

- Each cabinet complete with lacquered hardwood block. Contains properly identified and sized holes to hold pins.
- Heavy-duty all-steel construction.
- Cabinets interlock to form compact unit.

DUNDICK TOOL WORKS, INC. 3410 West 31st St. Chicago 23, Illinois

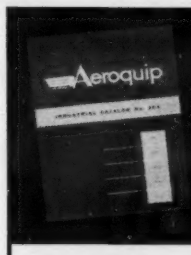
▲ For more details circle NED-367 B on enclosed inquiry slip ▲

Disowheel® "press-ons" wear longer under tougher conditions

When you put on tough, wear-resistant Disogrin "press-ons" you stretch a few months service into a year or more. And the tougher the floor conditions, the greater advantage of Disogrin wheels. Because of their superior resiliency, Disogrin "press-ons" give a smoother ride for operator, truck and load. A ride that means less operator fatigue, fewer breakdowns, less load damage. Available in all sizes up to 22". Write today—we'll send you a practical wheel analysis chart and complete information on DISOWHEEL.

DISOGRIN INDUSTRIES
510 SOUTH FULTON AVENUE • MOUNT VERNON, NEW YORK

▲ For more details circle NED-368 B on enclosed inquiry slip ▲



Cut Costs of Hydraulic Line Maintenance!

New Aeroquip Catalog Has Specific Product Data on Hose, Fittings, Adapters for All Fluid Line Applications

Purchasing agents and maintenance engineers: Here is clear, complete information on easy-to-assemble Aeroquip Hose Lines and Reusable Fittings. New Catalog No. 204 covers hydraulic, air, lube, water, steam and special purpose hose lines. For your copy of new Catalog No. 204, or for fast delivery of your hose line needs, call your Aeroquip Distributor today. He's listed under "Hose" in your Yellow Page Phone Book.

FOR REPLACEMENT USE—NOT A DESIGN CATALOG

Aeroquip

AEROQUIP CORPORATION, JACKSON, MICHIGAN
INDUSTRIAL DIVISION, VAN WERT, OHIO • WESTERN DIVISION, BURBANK, CALIFORNIA • AEROQUIP (CANADA) LTD., TORONTO 19, ONTARIO

▲ For more details circle NED-369 B on enclosed inquiry slip ▲

SPRAYS top quality FINISHES at less cost

If you seek a spray gun that can really help painters turn out quality work . . . if you seek a spray gun that will last and last . . . see and try Binks Model 18 spray gun.

The rugged drop-forged gun body (1) and gun head (2) take knocks and bumps in stride. The stainless steel adjustable needle valve (3), precision-made air nozzle (4), perfect air seal (5) and convenient air controls (6) assure correct spray patterns.

0212

Binks *EVERYTHING FOR SPRAY PAINTING*

Send for Catalog 956. Ask your distributor or write direct for all the details.

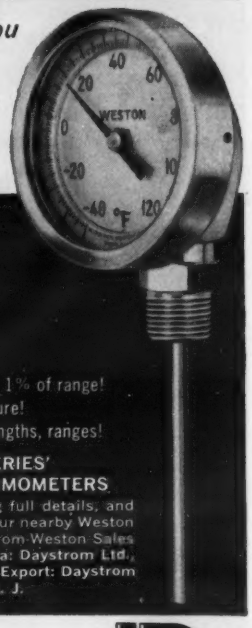
Binks Manufacturing Co.
3122-34 West Carroll Avenue
Chicago 12, Ill.

REPRESENTATIVES IN PRINCIPAL U. S. & CANADIAN CITIES • SEE YOUR CLASSIFIED DIRECTORY

▲ For more details circle NED-370 B on enclosed inquiry slip ▲

Only Weston brings you

SUCH A FEATURE-FULL THERMOMETER



- Rugged all-stainless-steel construction, including welds!
- In-line scales and pointers eliminate parallax error!
- Removable bezel permits quick on-the-job window replacement!
- New gasket material provides extra-tight sealing power!
- Guaranteed accuracies — within ± 1% of range!
- Standard external adjustment feature!
- Full line of standard sizes, stem lengths, ranges!

THE NEW WESTON '4000 SERIES' HEAVY-DUTY BI-METAL THERMOMETERS

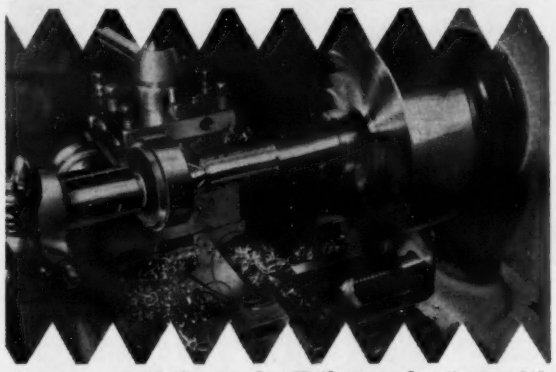
FOR NEW FREE LITERATURE giving full details, and name of local distributor, contact your nearby Weston representative . . . or write to Daystrom-Weston Sales Division, Newark 12, N. J. In Canada: Daystrom Ltd., 840 Caledonia Rd., Toronto 19, Ont. Export: Daystrom Int'l. 100 Empire St., Newark 12, N. J.

WESTON A DAYSTROM UNIT

Bi-metal Thermometers

WORLD LEADER IN MEASUREMENT AND CONTROL

▲ For more details circle NED-371 B on enclosed inquiry slip ▲



Now . . . cut threads 5 times faster with Clausing geared-head lathes

The Clausing-Colchester 13", 15", 17" geared-head lathes equipped with new high speed thread cutting unit—

(1) Cut threads five times faster than by normal methods
(2) Thread tight to a shoulder at maximum speed
(3) Cut internal threads without undercutting
(4) Take full advantage of carbide tools
(5) Minimize rejects

Cutting a 1⅛"—16 thread . . . at 1200 RPM . . . is an example of the production obtained with this unit on a Clausing lathe. And you cut precision threads every time! The Hi-Speed Unit contains its own half-nuts and engagement mechanism that eliminates all danger of a thread being "picked up" incorrectly.

Clausing geared-head lathes are bigger in capacity. Have larger spindles, larger thru-hole capacity, larger bearings. See for yourself the many *plus* features you get in the Clausing lathes equipped for high speed thread cutting. *Compare the low prices!*

Write for FREE LITERATURE

CLAUSING **CLAUSING DIVISION** ATLAS PRESS COMPANY 2-113 N. Pitcher St. • Kalamazoo, Mich.

▲ For more details circle NED-372 B on enclosed inquiry slip ▲

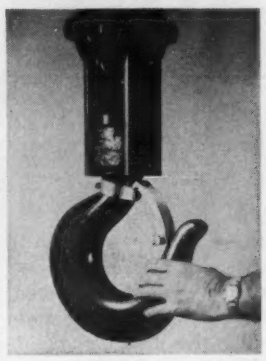
Write for new Safety Switch Bulletin
Square D Company, 1601 Mercer Road
Lexington, Kentucky

SQUARE D COMPANY

wherever electricity is distributed and controlled

▲ For more details circle NED-373 B on enclosed inquiry slip ▲

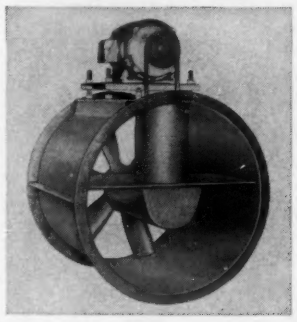
SAFETY LATCHES
for ¼ through 10-ton hoist hooks



Standard hoist hooks from ¼ through 10-ton capacity are converted to safety hooks by line of safety latches. They are quickly installed on any hook with only hand tools. Device consists of clamp-on collar and spring-loaded latch which fits into hook opening. It prevents accidental dropping and detaching of loads. There is never any need for putting fingers into hook openings. • **Harrington Co.**, Gravers Road, Plymouth Meeting, Pa.

▲ For more details circle NED-374 B on enclosed inquiry slip ▲

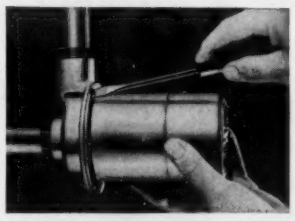
GLASS FIBER DUCT FANS
12 to 36-in. diameter sizes offered



Expanded line of glass fiber duct fans now includes 12, 16, 20, 24, 28, and 36-in. diameter sizes. Propeller, duct section, drive housing, and bearing cover are glass fiber, whereas drive shaft and hardware are stainless steel. In design and performance, fans are identical to standard Hartzell belt-driven duct fans and feature variable pitch drives which allow quick adjustment of fan speed, fan noise, and air delivery. • **Hartzell Propeller Fan Co.**, 1025 Roosevelt Ave., Piqua, Ohio.

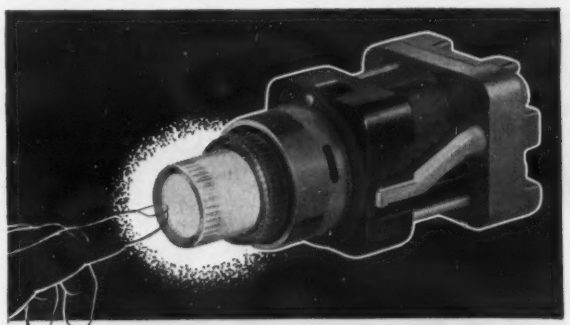
▲ For more details circle NED-375 B on enclosed inquiry slip ▲

COMPACT PUMP
7-lb unit can deliver 800 gph



Weighing less than 7 lb, Model 420D Dynapump, a compact, leakproof "canned" unit, is capable of pumping solvents, refrigerants, and difficult fluids at over 800 gph and at heads up to 12 ft. The corrosion resistant unit features a single assembly of rotor, shaft, and impeller enclosed in a stainless steel cylinder. Pumped fluid itself circulates in rotor chamber and acts as bearing lubricant and motor coolant. Pump operates at up to 150-psi pressures and temperatures to 220° F, and is available for either 115 or 220-v, single-phase, 50 or 60-cycle ac. • **Fostoria Corp.**, Dynapump Div., Box 35-3, Huntingdon Valley, Pa.

▲ For more details circle NED-376 B on enclosed inquiry slip ▲



Save Mounting Space and Installation Time

with this **ILLUMINATED PUSH BUTTON**

Push button and pilot light combined in one compact, oil-tight device

Write for Bulletin 9001-T. Address Square D Company, 4041 North Richards Street, Milwaukee 12, Wisconsin

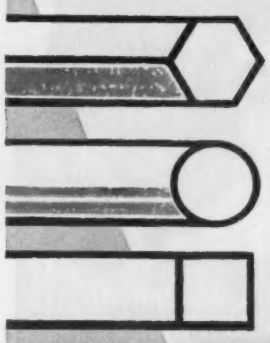
SQUARE D COMPANY

wherever electricity is distributed and controlled

▲ For more details circle NED-377 B on enclosed inquiry slip ▲

MUELLER BRASS CO.

S-C (super-cutting) ROD NEVER VARIES!



Perfectly uniform from batch to batch . . . its high quality never varies from order to order. Has excellent machinability for higher production at lower cost. If you use rod, you'll be money ahead using S-C . . . why not place your order today.

If you want more facts write for Engineering Manual FM-3010

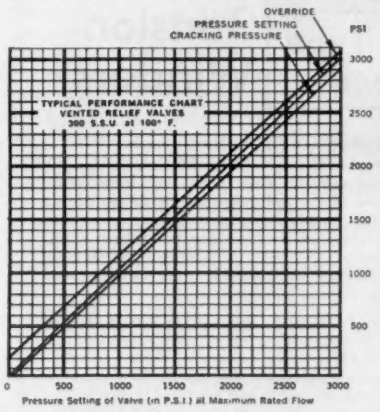
251

MUELLER BRASS CO. PORT HURON 37, MICHIGAN

▲ For more details circle NED-378 B on enclosed inquiry slip ▲

Take A Long, Close Look At The New H-P-M Relief Valves

The performance chart tells the complete story: Close control of cracking pressures, choice of high or low venting pressures to match your system requirements; low override for system protection and trouble-free operation. They're interchangeable with industry standards, ⅜", ¾" and 1¼" sizes, 3000 psi, 0 to 65 gpm. THE PRICES ARE COMPETITIVE.



Close control of cracking pressure assures accurate cycle control. Note low differential between opening and closing pressures.

H52 HPM

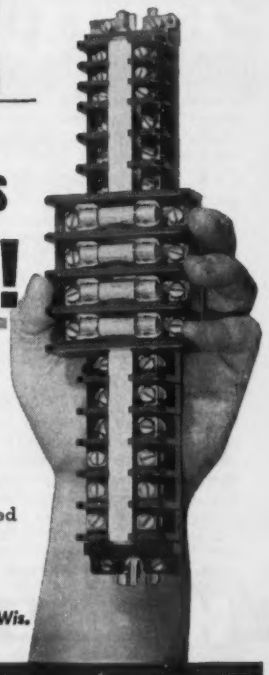
THE HYDRAULIC PRESS MFG. COMPANY

A Division of Koehring Company, Mount Gilead, Ohio, U.S.A.

▲ For more details circle NED-379 B on enclosed inquiry slip ▲

NOW!

SQUARE D TERMINAL BLOCKS are fusible!



- INCREASED FLEXIBILITY... individual fusible blocks combine with four different types of terminals on a single channel.
- Rated 30 amp., 600 volts
- Accepts any ferrule-type fuse 13/32" diameter by 1½" long
- Available in factory-assembled units, or kit form for customer assembly

Write for Bulletin 9080-H. Square D Company, 4041 North Richards Street, Milwaukee 12, Wis.

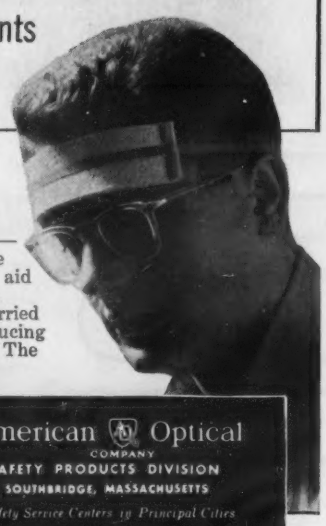
SQUARE D COMPANY

wherever electricity is distributed and controlled

▲ For more details circle NED-380 B on enclosed inquiry slip ▲

AO Sweatbands

Prevent Accidents Aid Production



They keep workers cooler, more comfortable — keep sweat out of eyes and off safety lenses — prevent accidents due to blurred vision and aid in preventing foreign matter from being carried into eyes thereby reducing eye dispensary cases. The cost? Pennies!

Always insist on AO Trademarked Safety Products

American Optical COMPANY
SAFETY PRODUCTS DIVISION
SOUTHBRIDGE, MASSACHUSETTS
Safety Service Centers in Principal Cities

QUICK FACTS — Absorb 16-20 times their weight. Weigh only ½ oz. Reinforced ends — all rubber adjustable strap. Several models available: 109B (shown), 108B-1" wide and "wrap around" types for helmets and face shields. Your nearest AO Safety Products Representative can supply you.

BE SAFE FOR SURE — WITH AO SUREGUARD SWEATBANDS

▲ For more details circle **NED-381 B** on enclosed inquiry slip ▲

7 Types of HOBBS Controlled Tension Winders

Check the Type YOU Need

☐ **1. STANDARD HOBBS-ALQUIST WINDER.** Preset tension is automatically maintained through the torque-speed characteristic of a constant horsepower A.C. motor. The latter slows down as the diameter of the roll increases. Its torque output increases proportionally, maintaining essentially constant H.P. — the equivalent to constant tension. May be stalled 100%. 220 or 440 volt operation. Roll buildup depends upon material being wound. Also supplied for tapered tension. Ratio of speed change and diameter buildup as high as 1:30.

☐ **2. HOBBS-ALQUIST WINDER WITH SYNCHRONIZATION (NTJ).** Preset tension maintained during frequent speed changes through a 3-phase synchronizing generator, driven by main machine. Speed of generator varies with that of main machine. Frequency of output current and speed of motor varies accordingly, resulting in essentially constant tension. Unit has higher ratio of speed change and diameter buildup than standard unit, a ratio of 1:100 being obtained on some material.

☐ **3. HOBBS-ALQUIST PROGRESSIVE FRICTION WINDER (APF).** Preset tension automatically maintained with extreme accuracy, during a roll buildup of 8:1, through a series of overriding friction clutches running in oil. Driven from the main machine, winder changes speed in proportion and still maintains constant tension. Required torque increase is sensed directly from the web (no dancer rolls).

☐ **4. HOBBS DC FIELD CONTROL WINDER SYNCHRONIZED WITH DC MACHINE DRIVE.** Preset tension automatically maintained (with accuracy of ±2% over roll buildup of 8:1, or even 10:1) by controlling the field current through a saturable reactor. Strength of the field is automatically adjusted to hold the armature current constant for any tension setting.

☐ **5. HOBBS DC FIELD CONTROL WINDER — WITHOUT DC MACHINE DRIVE.** For situations where synchronization is not necessary. Except for absence of synchronization, winder operates as above. An independent adjustable DC supply is provided for the automatic field control.

☐ **6. HOBBS DC FIELD CONTROL WINDER SYNCHRONIZED WITHOUT DC MACHINE DRIVE.** Synchronized winding characteristic is as described in paragraph 4. However, the armature voltage is automatically controlled by a signal from a tach generator on the main machine. This operates through a magnetic amplifier and saturable reactor circuit.

☐ **7. HOBBS DC SPEED CONTROL WINDER.** For use when ranges of speed, width and diameter are beyond the capacity of a tension control winder. This unit provides synchronization and near zero constant tension. A dancer roll controls a transducer, regulating the armature voltage of a DC shunt motor, thus determining the output speed of the motor. Static control achieved with a saturable reactor.

Check the type of Hobbs winder most suitable for YOU and ask us to figure on your requirements.

If you don't know, tell us your problem and ask us to make recommendations.

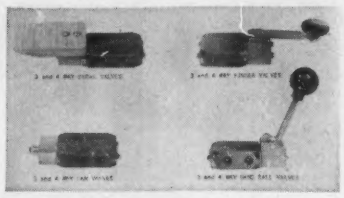
HOBBS Manufacturing Company
41B Salisbury Street, Worcester 5, Mass.
Branch Offices & Representatives in Irvington, N. J., Chicago, Cleveland, Greenville, S. C., Louisville, Ky., Los Angeles, Toronto, Canada and other principal cities.

609-8

WINDERS • HAND & POWER SHEARS • SLITTERS & REWINDERS • DIE PRESSES

▲ For more details circle **NED-382 B** on enclosed inquiry slip ▲

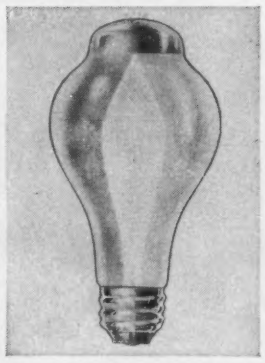
AIR CONTROL VALVES
stem reciprocates and rotates



Reciprocating and rotating motion designed into Rotoram three and four-way valves provides fast, smooth control of air cylinders. Special Block V packing allows free movement of stem, yet maintains a tight seal. Valves are made in 1/8, 1/4, 3/8, and 1/2-in. pipe sizes, for pressures up to 200 psi. A wide range of actuator options is offered. They are quickly changed from one operating style to another without dismantling the basic valve. • **Air-Mite Devices, Inc.**, 4401 W. Kinzie St., Chicago, Ill.

▲ For more details circle **NED-383 B** on enclosed inquiry slip ▲

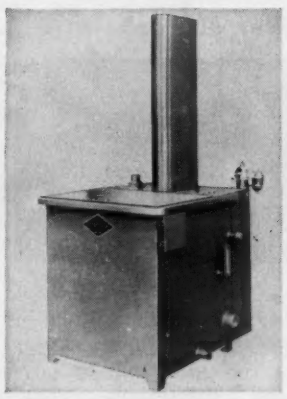
INCANDESCENT LAMP
matches flame in shape, appearance



Flame-like light is emitted from this Flamescent incandescent lamp which matches an actual gaslight in shape and appearance. Bulbs are weatherproof and feature glass fiber thread spun scientifically around the body and silicone-cured. They are also shatterproof and will not scatter glass fragments even when dropped from a high place. Flame-like appearance adapts bulbs to various decorative uses. • **Duro-Test Corp.**, 2400 Hudson Blvd., North Bergen, N. J.

▲ For more details circle **NED-384 B** on enclosed inquiry slip ▲

PARTS WASHING MACHINE
is agitating dip-type unit



The Surg-A-Flow agitating dip-type washing machine will batch clean a variety of metal parts and assemblies ranging from jigs, die sets, and fixtures to engine blocks. Work tray, operated by air cylinder, is a single moving assembly. Electrical connections are required only if tank is heated electrically. Machine can be used also in batteries for multiple-stage washing, rinsing, or dunking of parts in oil. It occupies 2½ x 3⅓ ft of floor space. Accessory equipment is available. • **Alvey-Ferguson Co.**, 6010 Disney St., Cincinnati 9, Ohio.

▲ For more details circle **NED-385 B** on enclosed inquiry slip ▲

Measure torques of rotating shafts quickly, accurately in shop, field or lab with the new low-cost

Metron Torquemeter

The easy-to-read Metron torquemeter (linear scale) gives you accuracy to within 2% of full scale. Simple to calibrate. Built-in torque overload protection. May be used as over-under torque control, or with recorder.

- **TORQUE RANGES: 10 standard ranges from 0 to 1 oz.-in. up to 0 to 500 oz.-in. (Multiple torque pickups available.)**
- **SPEED RANGE: 50 to 24,000 RPM**
- **BI-DIRECTIONAL SHAFT ROTATION**
- **COMPACT TORQUE PICKUP**

Metron INSTRUMENT COMPANY
416 Lincoln Street • Denver 3, Colorado
Denver PE 3-3764 • New Jersey CE 9-4241 • Chicago BI 2-1672 • Los Angeles ST 8-4550
Detroit UN 1-7311 • Cleveland AC 6-1970 • Rochester LU 6-6619

▲ For more details circle **NED-386 B** on enclosed inquiry slip ▲

efficient and fast . . .

ELLIOTT BOILER TUBE EXPANDERS

for boiler tubes ¾ in. I.D. and up

All Elliott boiler tube expanders are available with drum, header, or short series mandrels. A drum mandrel is seen with the above Type K expander. For descriptive literature, write the Elliott Company, Lagonda Division, Springfield, Ohio, for Bulletin Y-46.

Y7-6

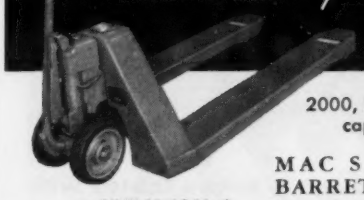
ELLIOTT Company
For Tube Cleaners, Expanders and Accessories

▲ For more details circle **NED-387 B** on enclosed inquiry slip ▲

NOW

BARRETT Model HX PALLET TRUCK

X-TRA LIGHT
X-TRA STRONG
X-TRA VALUE!



2000, 2500 and 3000 lb. capacity 4½" lift

- **All-Welded Ribbed Construction**
- **Short Wheel Base—Maneuverable**
- **Simplified Hydraulic Unit**
- **"Flying Saucer" Pallet Entry**
- **Overload Protection**
- **Adjustable Lowering Control**

MAC SAYS, "This new BARRETT HX is different from any hand pallet truck you ever used. It's loaded with features never before available in a truck of this type. And priced surprisingly low! Get the money-saving facts. Write for Bulletin 5511—*today!*"

BARRETT-CRAVENS COMPANY
650 Dundee Road, Northbrook, Illinois.
Representatives in All Principal Cities.
Canadian Licensee: S. A. Armstrong Ltd., Toronto, Canada.

BARRETT

One man does more than 3 or 4—with a Barret

▲ For more details circle **NED-388 B** on enclosed inquiry slip ▲

HYDRAULIC REMOTE CONTROL SYSTEMS

Completely self-contained . . . single tube . . . remote control eliminates use of compensators. Rugged and reliable . . . used in engine, machine tool and many other factory applications . . . wherever positive, accurate, instant duplication of movement is needed . . . no "sponginess."

EASILY INSTALLED

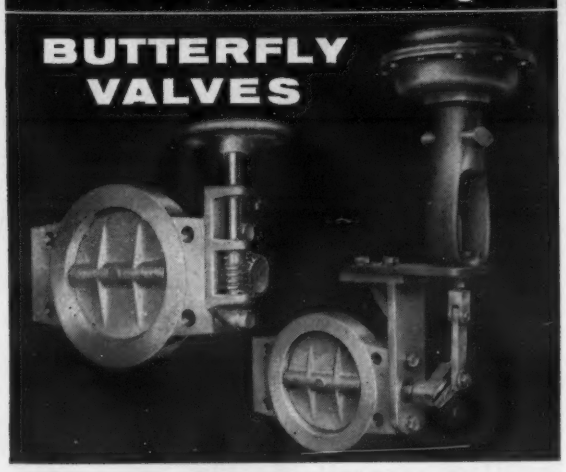
Sperry CONTROLS
HYDRAULIC REMOTE CONTROLS
Representatives in Principal Cities

SPERRY PRODUCTS, INC. • 1712 SHELTER ROCK RD. • DANBURY, CONN.

▲ For more details circle **NED-389 B** on enclosed inquiry slip ▲

Advanced Design

BUTTERFLY VALVES



NOW . . . an extensive line of Butterfly Valve types and sizes with many features.

- Variety of actuators
- Soft and angle seating
- Variety of body linings
- Adjustable for 60° or 90° operation
- Wide range of sizes in steel or iron

Whatever your needs, specify Masoneilan Butterfly Valves. Call or write for catalog.

MASON-NEILAN
Division of Worthington Corporation
69 Nahatan Street, Norwood, Mass.

WNS-30

▲ For more details circle NED-390 B on enclosed inquiry slip ▲

Whether you mark materials, parts, products or packages, there's a Markem machine ready to bring low cost, high production identification or decorative marking to your plant. From plastics to fabrics . . . transistors to camera parts . . . multi-color decorative marking to high production offset marking — there's a *Markem Method* to meet your marking needs. One source, with 47 years of experience in all industries, can supply the machines, type, inks, accessories and service you need. For complete information, write Markem Machine Company, Keene 3, New Hampshire.

MARKEM

EVERYTHING INDUSTRY NEEDS . . . FOR PROFITABLE MARKING . . . SINCE 1911

▲ For more details circle NED-391 B on enclosed inquiry slip ▲

SPITFIRE Grinding Discs

GREATER SAFETY MARGIN! Aluminum Oxide Discs feature built-in barrier protection plus fully reinforced edges to eliminate limpness and excessive grit loss. Spitfire Discs provide 25% greater safety margin on "snagging" and "hang up" operations.

FASTER, COOLER CUTTING! Sharp, uniform cutting action makes full use of disc surface . . . speeds up grinding and sanding even under toughest conditions. Cooler running to add extra life, longer production performance.

A TYPE AND SIZE FOR EVERY JOB! Available in "Special," "Standard" and "Heavy Duty" discs for everything from light gauge metal sanding and polishing to high speed finishing operations. Grit sizes 16 through 180. Disc diameters include 6", 7", 8" and 9⅛" with ½" and ⅞" arbor holes.

Write for "Spitfire" folder!

JEWEL BRAND

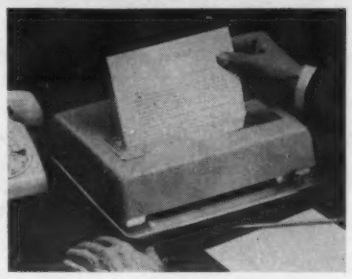
COATED ABRASIVES

Belts • Rolls • Sheets • Discs • Specialties

ABRASIVE PRODUCTS, INC.
South Braintree 85, Massachusetts

▲ For more details circle NED-392 B on enclosed inquiry slip ▲

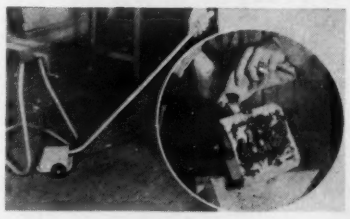
OFFICE COPYING MACHINE
dry type unit has single control



Plugged into any convenient electric outlet, the Courier model Thermo-Fax office copying machine enables an untrained operator to make ready-to-use copies in 8 sec or less. The dry type, all-electric machine weighs 25 lb and is operated by a single control. It uses a new bond weight white copy paper, or any of seven colored or special copy papers. The 12½ x 14½ x 4½-in. desk-top machine sells for $199. • **Minnesota Mining & Mfg. Co.**, Dept. S9-515, 900 Bush Ave., St. Paul 6, Minn.

▲ For more details circle NED-393 B on enclosed inquiry slip ▲

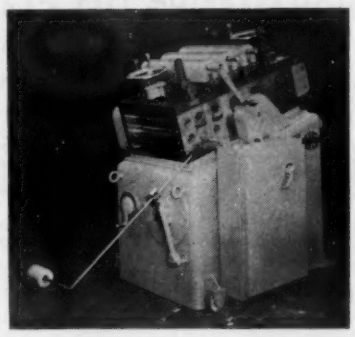
MAGNETIC FLOOR SWEEPER
picks up all types of ferrous scrap



Ferrous nails, bolts, nuts, wire, steel wool, scrap, metal shavings, and even the smallest ferrous metal slivers are picked up by Model 51 magnetic floor sweeper. The small, 7½-lb unit rides on hard rubber wheels with bronze bushings and is constructed of stainless and carbon steel. Handle end has a rubber grip. Scrap is easily wiped off with a cloth. • **American Magnetics Co.**, Box 254, Moline, Ill.

▲ For more details circle NED-394 B on enclosed inquiry slip ▲

COIL STOCK STRAIGHTENER
for steel, brass, copper, aluminum



Coil set is removed from coiled material by the Model PDS-16H power driven straightener, usually used with automatic press and press brake feeding equipment. It has a capacity for 16-in. wide, ¼-in. thick cold rolled steel, hot rolled steel, brass, copper, or aluminum. Straightener has a pair of power driven take-in rolls, six straightening rolls (upper three of which are adjustable), and a pair of power driven take-out rolls. The 5-hp, variable speed unit has outputs from 10 to 50 fpm. • **U. S. Tool Co.**, Ampere (East Orange), N. J.

▲ For more details circle NED-395 B on enclosed inquiry slip ▲

Now Let's Talk PHOTOMATION miniature "ELECTRIC-EYES"!

Monitoring — Registration — Quality Control

- Low Power Consumption
- High Efficiency
- Simple Installation
- Rugged and Dependable
- Accurate
- Built-in Versatility
- Extremely Sensitive

The Photomation miniaturized "electric-eyes" will give an average of millions of operating cycles. They are designed for the production line to speed up production with maximum quality control.

At Your Service . . . an outside network of specially trained automation engineers to handle your problems. Local, on the spot recommendations and quotes. Write for descriptive material.

Photomation inc.
96 SOUTH WASHINGTON AVE., BERGENFIELD, NEW JERSEY

ELECTRONIC INSTRUMENTS and CONTROLS for INDUSTRY

▲ For more details circle NED-396 B on enclosed inquiry slip ▲

Model RCNS 3435 pistol-grip, air power sealer

New Signode air power sealer reduces strapping time

This new Signode Model RCNS pneumatic sealer features a pistol grip that makes it easy and convenient to seal ¾-inch steel strapping with one hand. It weighs only six pounds. The operator simply sets the tool on the seal and pulls the trigger. Compressed air does the hard work—crimps every seal correctly, positively, quickly.

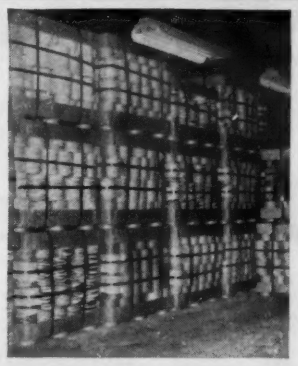
The RCNS sealer is available on an annual rental or single payment basis, as are other Signode heavy-duty steel strapping tools. Let us arrange a demonstration on your premises at your convenience. Just write or call without obligation.

Send for new Booklet SPD 216 that describes the Signode line of air power tensioners and sealers and shows typical money-saving applications.

SIGNODE STEEL STRAPPING CO.
2643 N. Western Avenue, Chicago 47, Illinois
Offices Coast to Coast
Foreign Subsidiaries and Distributors World-Wide
In Canada: Canadian Steel Strapping Co. Ltd., Montreal • Toronto

▲ For more details circle NED-397 B on enclosed inquiry slip ▲

Carpet yarn unit loads on paperboard pallets cut costs, stack high



Substantial savings were made when the unit loads illustrated above supplanted wooden crates. Total material cost for pallet, cover, strapping and seals is about $2.11 per unit.

There are four layers of 35 spools per layer in each load. The paperboard pallets and covers are 42½" by 38½" with 5" sides. Pallets have nine 7" dia. posts. The four vertical and two horizontal straps are of ¾" by .015" Signode Apex steel strapping.

Signode expendable paperboard pallets are light, clean, shock absorbing, and strong. A 10-lb. pallet can support 6,000 lbs. All bother and expense of pallet return are eliminated, for you and for your customers.

Let a local Signode Pallet Licensee design a corrugated unit load that will give you maximum savings. We will be glad to put you in touch with him. Just write Signode.

Sponsored by Paperboard Pallet Manufacturers
In cooperation with
SIGNODE STEEL STRAPPING CO.
Dept. SP, 2643 N. Western Ave., Chicago 47, Ill.

▲ For more details circle NED-398 B on enclosed inquiry slip ▲

NEW from SIGNODE

Valuable Free Booklet

"BETTER WAYS TO PACKAGE, UNITIZE, AND SHIP"

Here are 48 useful pages of facts about steel strapping methods, tools and equipment to help you simplify and reduce the cost of handling, storing, and shipping.

Describes and illustrates modern, better ways in which steel strapping saves weight, reduces damage, eliminates pilferage, improves stacking and carloading. Describes various kinds of Signode strapping, seals, pneumatic, electric and hand operated strapping tools, dispensers and other accessories.

Send now for your free copy.

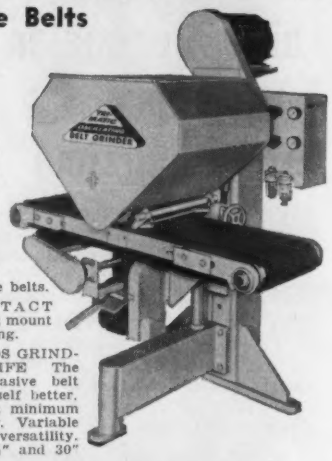
SIGNODE STEEL STRAPPING CO.
2643 N. Western Avenue, Chicago 47, Illinois
Offices Coast to Coast
Foreign Subsidiaries and Distributors World-Wide
In Canada: Canadian Steel Strapping Co., Ltd., Montreal • Toronto

▲ For more details circle NED-399 B on enclosed inquiry slip ▲

NEW TRI-MATIC Oscillating Belt Grinder

deburrs, descales, grinds, polishes . . .

Change Abrasive Belts IN LESS THAN 2 MINUTES



BELT TRACKING adjustments are completely eliminated. No projecting belt guides interfere with sliding one belt off and another on. It takes less than 2 minutes from turning off the machine to re-starting.

4 MACHINE SIZES IN 1 A simple adjustment permits use of 6", 8", 10" or 12" wide belts.

EASY CHANGE CONTACT WHEELS Contact wheel and mount are one unit for easy changing.

OSCILLATING BELT SPEEDS GRINDING, PROLONGS BELT LIFE The shearing action of the abrasive belt makes it cut faster, clean itself better, reduces grinding pattern to a minimum and makes belts last longer. Variable speed conveyor adds to versatility. AVAILABLE in 12", 18", 24" and 30" models.

Write TODAY for illustrated descriptive Bulletin TM-459.

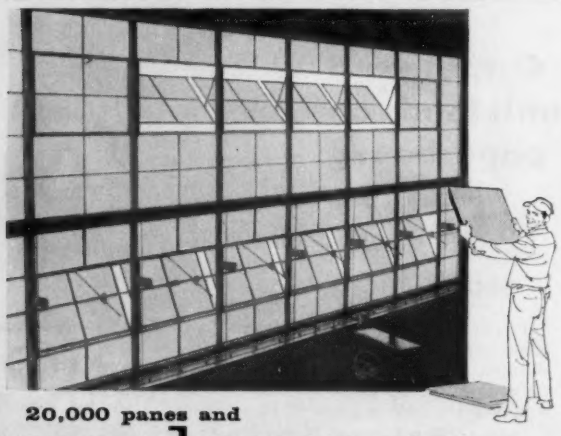
TRI-MATIC DIVISION

Send problem parts to our abrasive engineers for processing and suggested solutions. No obligation.

Sales Service Mfg. Co.

2365 University Ave., St. Paul 14A, Minn.

▲ For more details circle **NED-400 B** on enclosed inquiry slip ▲



20,000 panes and

no damage...

when Firestone glazed with Structoglas

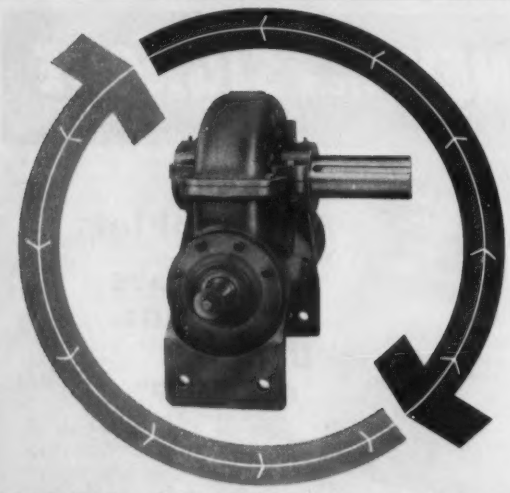
Hurricanes in Cuba, earthquakes in the Philippines, vandalism in the States made glazing replacement a frequent expense for Firestone's far-flung plants. Easy-to-install glazing of shatterproof Structoglas stopped breakage, let in natural light without harmful ultraviolet. Eliminate costly breakage in your plant. Glaze *once and for all* with Structoglas.

5803

Write for Detailed Literature **structoglas®**

STRUCTOGLAS DIVISION
International Molded Plastics, Inc., Dept. 206, Cleveland 9, Ohio

▲ For more details circle **NED-401 B** on enclosed inquiry slip ▲



TULSA SPEED REDUCERS

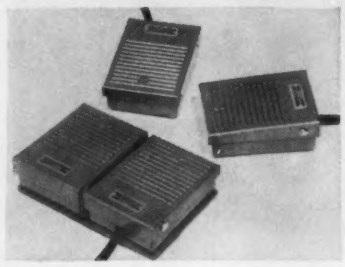
• Low Cost • Compact • Heavy Duty • Worm Gear

Economize on speed reduction costs with Tulsa Speed Reducers. For intermittent heavy duty operation at slow speeds, you can't beat Tulsa Speed Reducers for initial low cost, minimum maintenance and outstanding performance. A wide range of models is available with maximum output torques ranging from 875 to 26,000 pound-feet. Some models available with automatic worm brake. For complete information write for Bulletin No. SR-56.

TULSA WINCH
A DIVISION OF WILKEN INCORPORATED
TULSA, OKLAHOMA

▲ For more details circle **NED-402 B** on enclosed inquiry slip ▲

MAINTAINED-ACTION FOOTSWITCH
single and twin models available

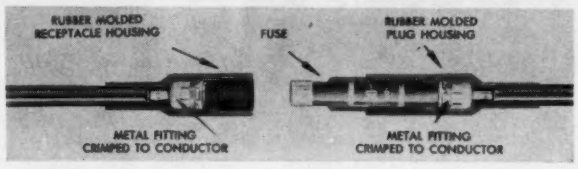


Strong steel housing and skidproof sponge rubber base pad are standard in Hi - Treadlite maintained - action single and dual footswitch models. Single-pole double-throw Model HT-52-D is rated 20 amp at 125, 250, and 460 v ac. Double-pole double-throw Model HT-54-D is rated 10 amp at 125 v ac and 5 amp at 250 v ac. Dual or twin types have maintained action on both sides, and/or one side maintained, the other momentary. • **Linemaster Switch Corp.**, 432 Woodstock Terrace, Woodstock, Conn.

▲ For more details circle **NED-403 B** on enclosed inquiry slip ▲

IN-LINE FUSE HOLDER
four-part kit is easily installed

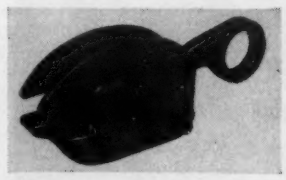
Molded rubber receptacle housing for the line side, molded rubber plug housing for the load side, two metal fuse holder fittings, and lubricating jelly com-



prise the Esna in-line fuse holder kit. It is easily installed on two cable ends in a few minutes. The waterproof unit is easily separated for replacement of the protected fuse. • **Elastic Stop Nut Corp. of America**, Elastimold Div., Box 38, Elizabeth 3, N. J.

▲ For more details circle **NED-404 B** on enclosed inquiry slip ▲

NON-MARRING LIFT CLAMP
for polished stainless, copper



Smooth - ground jaws without teeth allow Model NM clamp to handle stainless steel, copper, aluminum, and other polished metals without marring or scratching. Finger-adjustable wedge on one side of the jaw and a five-to-one gripping ratio on the opposite side assure a positive, nonslipping grip. Clamp can be locked on the load or unlocked by means of wedge-screw adjustment. Weight-lift sizes range from ½ to 12 tons, with other sizes available on request. Safety factor is 3 to 1. • **J. C. Renfroe & Sons**, 1926 Spearing St., Jacksonville, Fla.

▲ For more details circle **NED-405 B** on enclosed inquiry slip ▲

CIRCUIT-MASTER missing parts detector

detects: non-ejection • mis-feed • buckling • end-of-material

Priced as low as $271.75 complete!

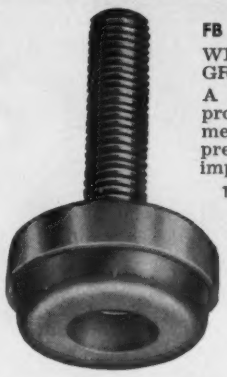
Protect all your dies from damaging overloads for less than the replacement cost of one. Circuit-Master's patented electronic circuits automatically stop your machines BEFORE an unejected part can cause a die-damaging overload.
Simple to install, no changes to equipment or wiring required—Circuit-Master is completely automatic, no adjustments of any kind.
Write, wire, phone now for detailed bulletin NED-260.
U. S. and foreign patents pending

WINTRISS, INC.

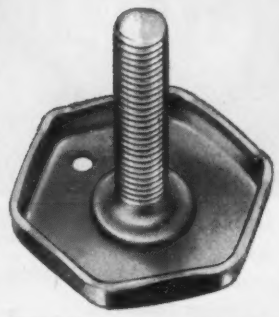
Originators and Manufacturers of Circuit-Master Overload Detector, Autotransfer, Automat, Automold and Missing Parts Detector.
20 Vandam Street • New York 13 • CHelsea 2-0105
Representatives: A few territories open on an exclusive, protected basis.

▲ For more details circle **NED-406 B** on enclosed inquiry slip ▲

OHIO ADJUSTING SCREWS



FB ADJUSTABLE FEET
WITH NON-MARKING GRAY PAD
A handsome, sturdy part that provides suction to hold equipment in place, absorb vibration, prevent marring of floors and improve product appearance.
Thread sizes 5/16-18 to ½-13



FT ADJUSTABLE SCREWS
Large hex head gives broad cupped base for easy hand adjustment. Used extensively on appliances as adjustable feet and as hand adjusting screws.
Thread sizes ¼-20 to ½-13

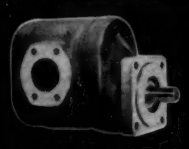
ADJUSTING SCREWS

OVER 50 YEARS OF BETTER FASTENING
Samples and information available upon request
THE OHIO NUT & BOLT CO.
14 First Avenue • Berea, Ohio

▲ For more details circle **NED-407 B** on enclosed inquiry slip ▲

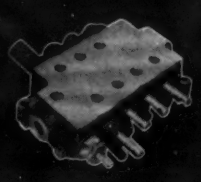
COMMERCIAL FLUID POWER UNITS

PROVIDE TOP PERFORMANCE
FOR ORIGINAL EQUIPMENT



HEAVY-DUTY GEAR PUMPS

Generate Oil Hydraulic Power
- Constant delivery up to 80 gpm
- Continuous duty operation up to 2000 psi
- Life sustained high volumetric efficiency
- Multiple choice portings, mountings and shafts



MULTI-DIRECTIONAL CONTROL VALVES

Control Oil Hydraulic Power
- Rated capacity—10 to 55 gpm
- Interchangeable working sections give multi-operating actions in any combination or sequence
- Load drop check in every section
- Pressure relief and overload protection

MULTIPLE TORQUE MULTIPLE SPEED MOTORS

Convert Oil Hydraulic Power
- Constant output up to 55 hp
- Continuous duty operation up to 2000 psi
- Start, stop or free wheel and reverse instantly
- Heavy duty service

"SLIM SILHOUETTE" CYLINDERS

Convert Oil Hydraulic Power
- Single acting, double acting, multi-sleeve telescopic
- Diameters up to 12"
- Operating pressure up to 1500 psi
- Easily disassembled for internal inspection

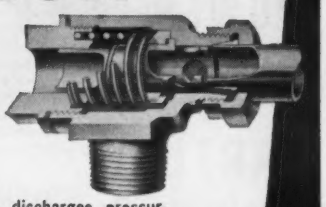
FREE CATALOG INCLUDES COMPLETE DRAWINGS AND PERFORMANCE DATA

COMMERCIAL
shearing and stamping
Youngstown 1, Ohio

▲ For more details circle **NED-408 B** on enclosed inquiry slip ▲

split-second air dumping with...

FAWICK quick release valves



- Instantaneously discharges pressurized air from any pneumatic pressure system
- Fast, positive valve actuation by pressure differential
- Precision built, self cleaning, never needs lubrication
- Available in ⅜" to 1" sizes (outlet pipe thread)

Specify them for "quick-release" of pressurized air.

FAWICK AIRFLEX

FAWICK AIRFLEX DIVISION
FAWICK CORPORATION
9919 Clinton Rd., Cleveland 11, Ohio
In Canada, Fawick Canada, LTD., Toronto

▲ For more details circle NED-409 B on enclosed inquiry slip ▲

Norgren Air Line Filters—

NEW Clamp Ring

with Spring Clip Lock

NOW, most Norgren Filters have a new, improved clamp ring, featuring a quick-opening spring clip that securely locks it in place...no tools required for servicing filters.

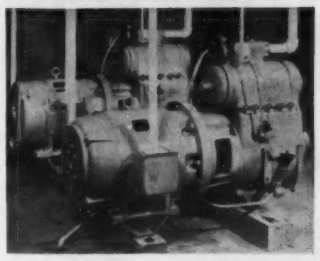
If it's Norgren...It's Dependable.

C. A. NORGREN CO. WRITE FOR LITERATURE

3405 SO. ELATI STREET • ENGLEWOOD, COLORADO

▲ For more details circle NED-410 B on enclosed inquiry slip ▲

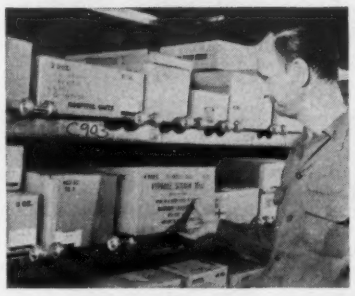
INDUSTRIAL AIR COMPRESSORS rated 20 to 125 hp at 100 psi



Improved line of Davey industrial compressors, comprising units rated 20 to 125 hp at 100 psi, features quiet, vibrationless operation with 50 per cent fewer working parts. The lightweight, compact units require only a small outlet for the 180° F discharge air. They are completely enclosed for safety. Typical 40-hp units shown measure 60 x 40 x 26 in. and weigh 1600 lb. • **Davey Compressor Co.**, Kent, Ohio.

▲ For more details circle NED-412 B on enclosed inquiry slip ▲

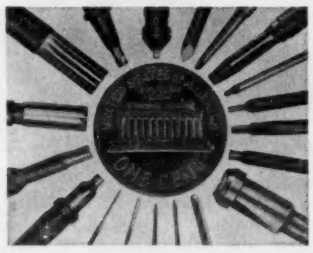
LIVE STORAGE RACK speeds withdrawal of package



High speed order picking is possible with this improved Versarack live storage rack (NED-Jan. '58). Mere fingertip pressure under stored carton releases it for one-hand removal. Weight of cartons behind the one being removed actually ejects the package. These features result from redesign of the frame and the addition of ball bearing wheel stops on the order picking front. Versaracks are made up in any size or shape from Speedbar framing elements, steel or plastic wheel Versarails, and standard fasteners. Their flexibility adapts them to any need. • **M-H Standard Corp.**, 517 Communipaw Ave., Jersey City 4, N. J.

▲ For more details circle NED-413 B on enclosed inquiry slip ▲

MICRO-MINIATURE TOOLS line includes 0.012 in. taps



Now offered is a complete line of micro-miniature cutting tools. Typical is a line of taps which range down to 0.012-in. diameter with 338 threads per inch. Used in production of precision instruments and controls where miniaturization is important, tools include spotters, drills, reamers, broaches, countersinks, counterbores, dies, hollow end mills, face mills, routers, keyway cutters, and circular saws. • **Waltham Precision Instrument Co.**, 221 Crescent St., Waltham 54, Mass.

▲ For more details circle NED-414 B on enclosed inquiry slip ▲

DO YOU NEED a low-cost source of metal fabricating?

Three large, well equipped plants at Aurora, Ill., York, Pa. and Los Angeles geared to economical production. Experienced in handling thousands of special items . . . products, parts, sub-assemblies, merchandising units, made to your specifications.

LYON Craftsmen in SHEET METAL PRODUCTION

LYON METAL PRODUCTS, INCORPORATED

Modern equipment includes coil steel slitting, leveling and edging, press work, all types of welding, electrostatic finishing. Sound design and engineering counsel.

Send for 16-Page Booklet

It tells All!

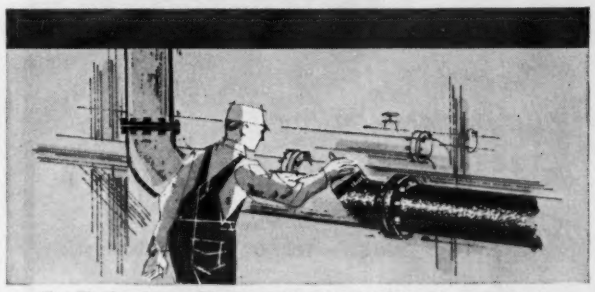
LYON METAL PRODUCTS, INC.

General Offices, 222 Monroe Avenue, Aurora, Illinois

▲ For more details circle NED-415 B on enclosed inquiry slip ▲

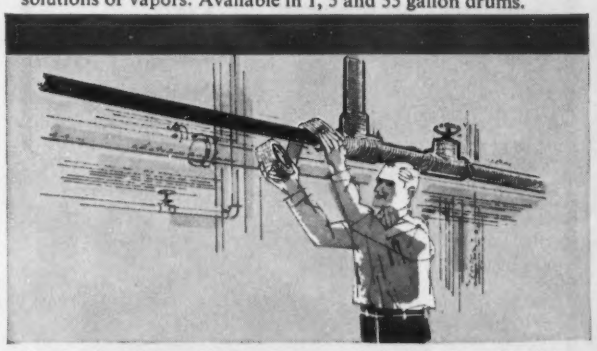
END ALL DRIP AND RUST PROBLEMS IN YOUR PLANT THESE TWO PROVEN WAYS!

Industrial plants know Mortell products offer more positive protection than any other drip-and-rust preventive. Maintenance men know that paints or compounds of paint and fish oil provide little or no permanent protection. Rust-inhibiting NoDrip Plastic Coating is a moisture-proof insulation that *does* stop condensation . . . forms a seamless jacket . . . *does* stop corrosion. NoDrip Tape, with its triple insulating barrier, is equally dependable.



For Tanks, Large Pipes, Air Ducts, Metal Equipment, Walls, Ceilings, Permanently End Condensation Drip, Rust and Corrosion With NoDRIP PLASTIC COATING

The heavy consistency of NoDrip outlasts many coats of paint or ordinary rust-preventives. Permanently insulates and protects. Applies easily with trowel, brush or special spray. Non-toxic, odorless and non-flammable. Resists acid, alkali, brine solutions or vapors. Available in 1, 5 and 55 gallon drums.



For Smaller Pipes or Tubing, Permanently End Condensation Drip, Rust and Corrosion With NoDRIP TAPE

An easy-to-use, wrap-around pipe covering, perfectly pliable, cork-filled, completely self-adhering. Forms an air-tight, 100% vapor- and moisture-proof jacket. Fits snugly even around tees, unions, angles, valves. Cuts maintenance costs—makes out-of-the-way storage areas useable—ends slip and slide floor hazards. No need for vapor seals, brads, fasteners or tools of any kind.

At all leading hardware, mill supply and plumbing jobbers. For complete information and technical handbook, write

Mortell COMPANY
526 Burch Street · Kankakee, Illinois

▲ For more details circle NED-416 B on enclosed inquiry slip ▲

ALL THIS

100% DUTY CYCLE
225 Amperes Rated Output
5 KW 115/230v AC
1 KW 115v DC
12.9 HP ONAN ENGINE

AND NOW ELECTRIC STARTER

The world-wide respect and demand for this original Miller gas engine driven welder/power plant has never been greater. To this established popularity has now been added the convenience of Bendix drive electric starting as optional equipment on models AEA-200-L and AEA-200. Model illustrated and headlined is AEA-200-LE.

As a welder, as a power plant, as a pipe thawer, indeed, as a top hand from Canadian uranium mines to Brazilian cattle ranches — and on highway construction jobs and repair ships between — the AEA-200-L stands quite alone as "the finest in the field." In addition to optional electric starter, road trailers and rubber tired running gear are also available.

Other Miller gas engine driven DC and AC-DC welder/power plants to 300 amperes at 100% duty cycle. Full particulars will be sent promptly upon request, or a demonstration can be arranged at your convenience.

miller Electric Manufacturing Company, Inc., APPLETON, WISCONSIN

EXPORT OFFICE: 250 West 57th St., New York 19, N.Y. • Distributed in Canada by Canadian Liquid Air Co., Ltd., Montreal

▲ For more details circle NED-411 B on enclosed inquiry slip ▲

how to trap dust

that damages your machines and hurts company morale

Easy-to-move **TORIT** dust collectors trap dust at its source!

Untrapped dust costs money: "secretly" forces precision machines out of line, limits production. Torit dust collectors are unitized for custom installation—save more money, usually more efficient than central (built-into-building) system. Torit unit operates only when machine or combination of machines it protects are on. Filtered air may be returned to room to save heat. Many models and sizes, all self-contained, easy to move. Write today to . . .

TORIT *manufacturing co.*

Dept. 201, 1133 Rankin St., St. Paul 16, Minn.

▲ For more details circle NED-417 B on enclosed inquiry slip ▲

UNIVERSAL
SELECT "O" RING KITS

Fills Replacement Needs on 85% of All Industrial Equipment

- ★ 180 "O" Rings in Each Kit—Sizes 1 to 25.
- ★ Patented Plastic Case Shows You "O" Ring Sizes in Kit at a Glance!
- ★ Interchange Data of All Leading "O" Ring Producers in Each Kit — All Manufacturers' Numbers Converted to Universal Numbers.
- ★ Buy Replacement Back-up Washers in these "O" Ring Sizes.

TEFLON	$115.95
BUTYL RUBBER	$ 47.95
STANDARD COMMERCIAL (Buna N)	$ 24.50
STANDARD SILICONE RUBBER	$ 66.90
VIM LEATHER BACK-UP WASHERS	$ 28.75
SELECT-O-RING KITS IN VITON	$124.50
AN 6227 SERIES	$ 59.50

RETAINING RING
ECON-O-KIT

400 Truarc Cadmium Plated Rings —84 Sizes—70% of Ring Sizes Used in Industry

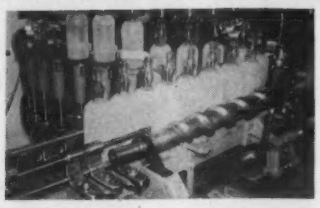
Save—eliminate many purchase orders for small quantities of retaining rings — Get most sizes used on your equipment with only ONE order — in one shockproof, plastic case. Sizes from ¼ to 2½ inches in the three most used Truarc series of internal, external and universal crescent ring designs. All rings meet National Aircraft Standards NAS 669 and NAS 670. Low priced at $34.50 per kit.

Installation and removal tools also available.

Packaged Merchandise Co.
3067 W. 117th St. • Cleveland 11, Ohio

▲ For more details circle NED-418 B on enclosed inquiry slip ▲

FEED TIMING SCREWS
made to fit container handled



Constant-pocket, accelerated-pitch infeed timing screws, used on container handling and certain other machines, now are available on a custom order basis. The timing control screws can be made in almost any dimension and from a choice of various materials, including plastics and metal, plated or unplated. Pitch and correct straight side or contour pocket are tailored to the container to be handled. • **Horix Mfg. Co.**, Greenway Drive, Pittsburgh 4, Pa.

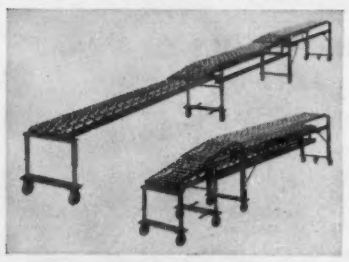
▲ For more details circle NED-419 B on enclosed inquiry slip ▲

5-GALLON DRUM WARMER
eases removal of viscous contents

Removal of tar, asphalt, resin, glue, mastics and adhesives, oil, varnish, paint, putty, and other viscous compounds from 5-gal drums is simplified with this electric drum warmer. It quickly heats the material and maintains it at a controlled temperature. Unit plugs into 110-120-v outlet and weighs 22 lb. Thermostatically-controlled temperature ranges of 60 to 250 and 200 to 550° F are offered. • **Harold L. Palmer Co.**, 28625 Grand River Ave., Farmington, Mich.

▲ For more details circle NED-420 B on enclosed inquiry slip ▲

EXTENDIBLE CONVEYOR
gravity type has 11 to 30-ft length



Designed for loading and unloading trucks, the Rapistan extendible gravity conveyor is also suited for moving materials into stacking areas and warehousing applications. Three 18-in. gravity wheel conveyor sections extend from less than 11 ft up to 30 ft. Five-inch diameter casters provide mobility. Unit is adjustable in height from 34¼ to 41½ in. at the loading end and from 20¼ to 27¼ in. at the unloading end. Each section has a built-in 2-in. pitch. For runs exceeding 30 ft, sections of standard gravity conveyor can be attached to either end. • **Rapids-Standard Co.**, 342 Rapistan Bldg., Grand Rapids 2, Mich.

▲ For more details circle NED-421 B on enclosed inquiry slip ▲

IS MACHINE SPEED IMPORTANT?

CHECK RATED SPEEDS ACCURATELY WITH A

FRAHM *TACHOMETER*

- NO CONTACT WITH MOVING PARTS
- MAKES SPEED CHECKS EASILY AND QUICKLY

ACCURATE
Guaranteed better than ½ of 1% of measured speed. Unaffected by ordinary temperature changes, by stray magnetic fields, or by the position in which it operates.

DURABLE
No moving parts to wear or be lubricated—not injured by overspeeding—no maintenance.

DEPENDABLE
The inherently stable steel reeds will operate indefinitely under normal conditions with no discernible drift in natural frequency.

Write for BULLETIN 31D

JAMES G. BIDDLE CO.
Electrical & Scientific Instruments
1316 ARCH STREET, PHILADELPHIA 7, PA.

▲ For more details circle NED-422 B on enclosed inquiry slip ▲

NEEDS NO OUTSIDE POWER SOURCE!

Partlow Gas Control Model 40

PARTLOW
Throttling Gas Valve

Partlow gas controls for heating appliances are completely self-contained — need no outside power or extra accessories. Accurate . . . maintain exact temperatures without seesawing or overshooting. Convenient . . . elements can be changed at the job site. Available in 9 optional temperature ranges up to 1100°F., and in models to accommodate pressures up to 20 psi., and pipe sizes from ¼ to 3 inches.

For details write Dept. N-260
The Partlow Corp., New Hartford, N.Y.

PARTLOW
TEMPERATURE CONTROLS

▲ For more details circle NED-423 B on enclosed inquiry slip ▲

NEW 8 blade

belted and direct driven high speed

tubeaxial fans . . .

Aerovent's new Tubeaxial Fan, designed around a new 8-blade "Macheta" Airfoil Axial Flow Propeller, offers top performance against medium pressures at speeds to 3450 RPM. Available in 16", 18", 24", and 30" diameters, this unit combines speed, stamina and modern functional design. Easily installed in present ductwork or engineered to new construction, it's the right answer for resistances to 4" SP. Another outstanding development from Aerovent—America's finest industrial fans and air equipment.

Write for free Bulletin 350

Air deliveries of Aerovent equipment determined in accordance with established and accepted codes and guaranteed by manufacturer.

CERTIFIED PERFORMANCE

Aerovent FAN CO., INC.
ASH and BLAKE STS. PIQUA, OHIO

▲ For more details circle NED-424 B on enclosed inquiry slip ▲

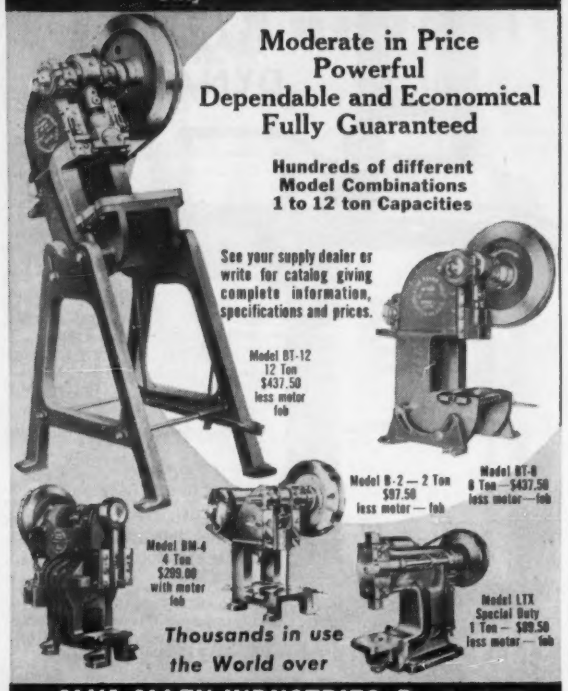
HIGH-UP SECURITY gets jobs done faster!

"Hi-boy" Ladders are extra safe because of the "pyramid" design and the automatic floor locking device. They are always ready to use and easily moved around. Made of welded steel, they seem to last forever. Write for complete catalog to Ballymore Company, West Chester 3, Pa.

BALLYMORE
EQUIPMENT FOR ABOVE-FLOOR SAFETY

▲ For more details circle NED-425 B on enclosed inquiry slip ▲

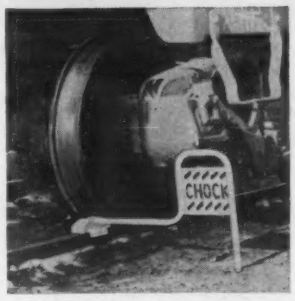
ALLEN Heavy Duty PUNCH PRESSES



ALVA ALLEN INDUSTRIES, Dept. NED,
Clinton, Missouri Tel. TUrner 5-3331

▲ For more details circle NED-426 B on enclosed inquiry slip ▲

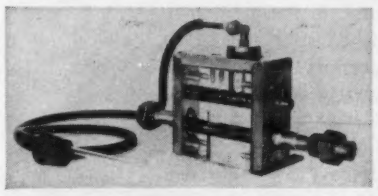
RAILROAD WHEEL CHOCKS
four styles have safety handles



Safe and effective blocking of railroad rolling stock is provided by improved (*NED, Feb.* '57) wheel chocks, available in four instantly attached and removed styles. Hardened steel insert spurs bite into the rail head as wheel pressure increases. Chock design prevents derailment of cars passing over them. They are usable on either track, in either direction, and have an indicator flag that extends beyond the cars. Standard finish is yellow. • **Aldon Co.**, Dept. 11, 3338 Ravenswood Ave., Chicago 13, Ill.

▲ For more details circle NED-429 B on enclosed inquiry slip ▲

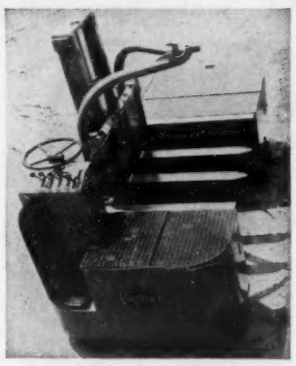
LIQUID FEEDER
proportions liquid chemicals



Instantaneous proportion-feeding of liquid chemicals into plant processes is achieved by Model MV-854-F Synchro liquid feeder. Used on straight-line runs or on bypass, the externally-adjusted unit has instantaneous feed from zero to maximum into main flow line. It closes automatically when main flow is shut off. Alloy construction is available for feeding corrosive liquids. Unit provides up to 29 in. of mercury vacuum. • **Mader Machine Co.**, 1114 W. 13th St., Lorain, Ohio.

▲ For more details circle NED-430 B on enclosed inquiry slip ▲

SIDE-LOADING FORK TRUCKS
with booms, lift 4000 and 6500 lb



Electric powered side-loading Traveloader fork lift trucks in 4000 and 6500-lb capacities are equipped with twin crane booms which have the same rated capacity. Booms and forks are arranged so that a load suspended from them is automatically transported at the proper load center. Booms are independent of forks and can be removed when desired. They swivel and can thus be joined at the tips as shown, or separated for "two sling" load handling. • **Otis Elevator Co.**, Baker Industrial Trucks Div., 8048 Baker Ave. N.W., Cleveland 2, Ohio.

▲ For more details circle NED-431 B on enclosed inquiry slip ▲

with Cleco's 3-in-1 drill screwdriver nut runner

Cleco's 10 Series Drill-Screwdriver-Nut Runner saves money because you can:

1) *Reduce tool inventory.* Gear trains, motors, handles, and chucks may be interchanged. With a limited number of parts, you have a drill-screwdriver-nut runner with gear reductions for various speeds.
2) *Reduce operating costs.* These tools are equipped with new air motors that give more power, yet consume less air per h.p. output.
3) *Reduce tool wear.* Non-friction, roller-type clutch permits longer periods of maintenance-free operation; has unequaled torque holding ability.

Call your Cleco representative for a demonstration-tryout or write for free descriptive literature.

CLECO AIR TOOLS
DIVISION OF REED ROLLER BIT COMPANY
P. O. Box 2119 • Houston 1, Texas
IN CANADA: Cleco Pneumatic Tool Company of Canada, Ltd., 927 Millwood Road, Leaside (Toronto), Ontario.

▲ For more details circle NED-427 B on enclosed inquiry slip ▲

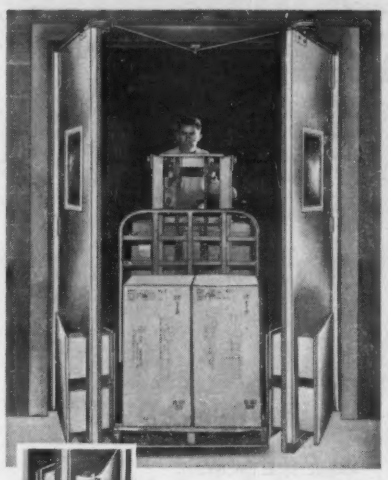
GRIPPER® woven wire SLINGS
here's SAFETY for any lifting job

No weak links to break . . . no thin strands to snap . . . no soft core to rot . . . nothing to tear suddenly and drop the load. That's the safety story of Gripper Slings. Spiral wire construction also gives the Gripper Sling complete flexibility to hold any sized load in a firm, yet gentle, grip. And, Gripper Sling's smooth, broad bearing surface won't cut or score stock . . . practically eliminates load damage.

Gripper Slings, pretested to meet load specifications are available in standard lengths and widths with capacities up to 100,000 lbs. Special sizes, alloys or Neoprene or PVC covered slings available. Write for FREE CATALOG and name of your nearest materials handling distributor.

The Cambridge Wire Cloth Co.
Department C • Cambridge 2, Md.

▲ For more details circle NED-428 B on enclosed inquiry slip ▲



Keeps Traffic *Moving* without wear, tear or repair

CLARK SHOCK ABSORBER DOOR

Special Formula Urethane-Cushioned Bumpers absorb shocks.

Save time and money with this lightweight, rigid Door that takes impact in stride. No strain at the flexible hinges, no warping, nothing to go out of whack. The **Bumper** takes the shock — not the **Door.**

Guaranteed Spring Return closes the door tightly. Flexible Neoprene Seals prevent loss of heat or cold—keep air temperatures exactly where you want them.

The low-cost Shock Absorber Door may be your solution to slowdowns and bottlenecks. Complete in one easy-to-install unit. Write for prices, full information. Specify size of opening.

CLARK DOOR COMPANY, INC. (since 1878)
511 Hunterdon St., Newark 8, N. J.

▲ For more details circle NED-432 B on enclosed inquiry slip ▲

TO IMPROVE PRODUCTION YOU NEED SUCTION

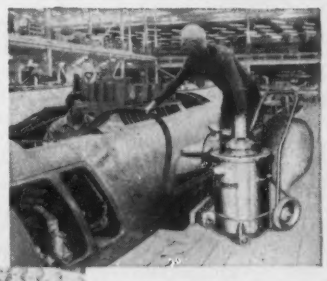
TORNADO® VACUUM THE NO. 1 CHOICE

SERIES 400

Smart management is using suction to remove unwanted dirt, chips, and waste from their product. What's more, they know Tornado gets the job done better, faster. It's the vacuum that can be moved quickly to any location for production or maintenance cleaning. Get the facts, write for Tornado bulletin 894-A, today!

CLEAN INTERIORS ON THE LINE

Airplanes, automobiles, appliances — assembly lines move quicker with Tornado at work.



REMOVE PRODUCTION WASTE

Lint and dust are removed while production hustles. Use this same operation with machine tools to reclaim chips for salvage.

RECOVER WELDING FLUX

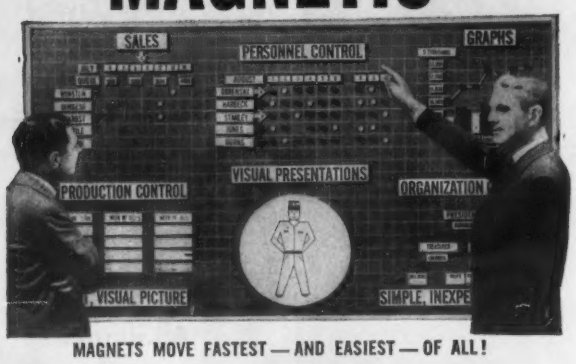
Production welding flux is expensive, why waste it? Tornado recovers the unused portion for reuse and big savings.

HAVE A FREE SUCTION SURVEY!
Just write and a Tornado expert will call at your convenience to show you how to "Improve your production—with suction."

BREUER ELECTRIC MFG. CO.
5116 N. RAVENSWOOD AVENUE • CHICAGO 40, ILLINOIS

▲ For more details circle NED-433 B on enclosed inquiry slip ▲

VISUAL **MAGNETIC** CONTROL



MAGNETS MOVE FASTEST — AND EASIEST — OF ALL!

SIMPLEST VISUAL SYSTEM FOR
- Production
- Personnel
- Sales
- Maintenance
- Scheduling
- Machine Loading
- Charts—Graphs
- Visual Presentations

COLORFUL MAGNETIC ELEMENTS
- show facts instantly
- organize for action
- eliminate mistakes
- get the job done

PRICED FROM $38 INCLUDING MAGNETIC ELEMENTS

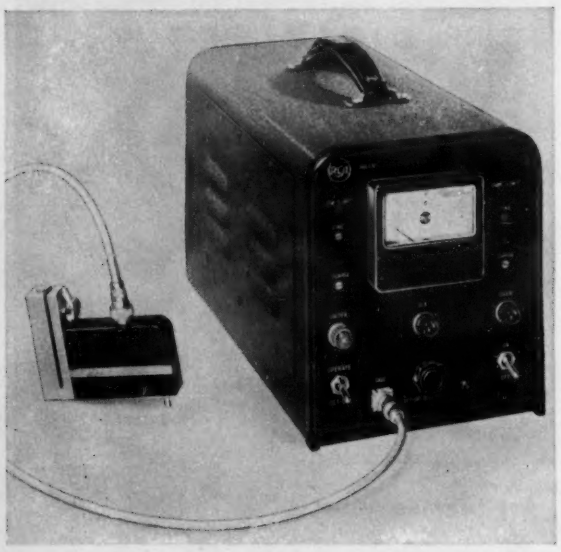
PRICE LIST & BROCHURE NE2 FREE ON REQUEST

REPRESENTATION DESIRED IN SOME AREAS

Methods Research Corp.
105 Willow Ave., Staten Island 5, New York

▲ For more details circle NED-434 B on enclosed inquiry slip ▲

Speed-Up Accurate Inspection and Sorting!



NEW RCA LIMIT-SIGNALING
COMPARATOR
for both contact and air gaging

The RCA LSC Comparator speeds up accurate manual checking and sorting since the operator only has to observe the high, low, and OK limit lights. Ideal for incoming or production line inspection. Extremely reliable and accurate to .000,050".

INSTANT RESPONSE
Operates on RF frequency. No lag between contact with work and meter indication.

FAST, EASY SET-UP
Gage is linear over full scale, making it a simple matter to set up limits.

EXTREMELY VERSATILE
Can be used with standard height stand or special fixture for manual inspection, for automatic in-process, or post process inspection and segregation. Standard air-electronic adapter kit permits use for air gaging.

COMPACT
Only 8½" wide, 9¼" high, 14¼" long.

For further particulars, see your RCA Representative or write to:

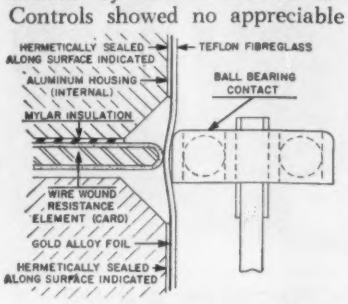
RADIO CORPORATION of AMERICA
INDUSTRIAL AND AUTOMATION DIVISION
12605 Arnold Avenue • Detroit 39, Michigan

Tmk(s) ®

▲ For more details circle NED-435 B on enclosed inquiry slip ▲

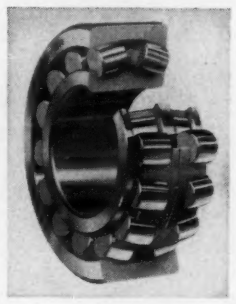
POTENTIOMETER is low noise, long life unit

Life in excess of 85 million cycles at 500 rpm is indicated by tests made on Rotoflex potentiometers. Controls showed no appreciable wear, change in resistance, nor noise over 50 ohms. They employ principle of dimpling contact on gold foil by rolling pressure to eliminate wear. These wirewound controls have the plus advantages of encapsulated units and they meet appropriate military specifications. • **Technology Instrument Corp.**, 531 Main St., Acton, Mass.



▲ For more details circle NED-436 B on enclosed inquiry slip ▲

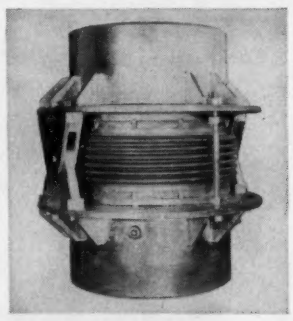
SPHERICAL ROLLER BEARINGS for heavy radial and shock loads



Single spherical outer raceway of these Super Finished spherical roller bearings permits them to compensate automatically for shaft misalignment in any direction, either initially or dynamically under load. A double row of large size, accurately guided rollers accommodates heavy radial and shock loads, and high contact angle provides for substantial thrust capacity in either direction. The bearings are offered with cylindrical or tapered bores in a wide range of sizes and capacities. • **Hoover Ball & Bearing Co.**, 5400 S. State Rd., Ann Arbor, Mich.

▲ For more details circle NED-437 B on enclosed inquiry slip ▲

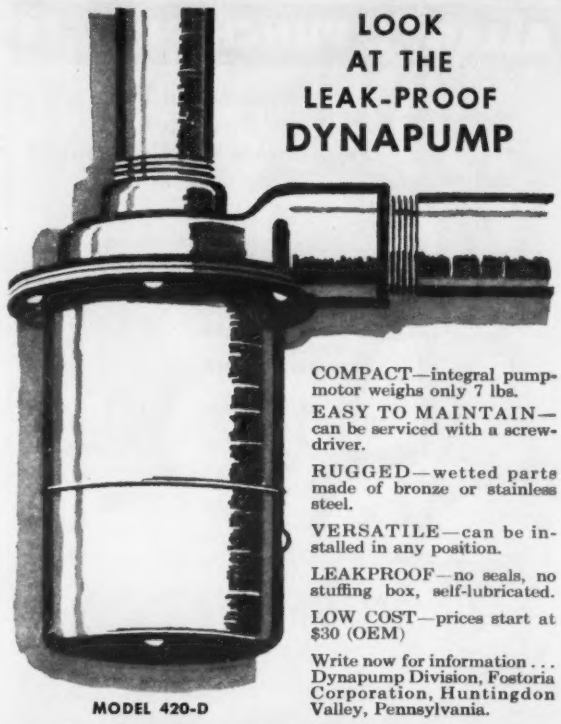
PIPE EXPANSION JOINTS make lines self-supporting



Piping systems that cannot be supported by conventional means are made self-supporting with these hinged expansion joints. Movement is closely controlled, and bellows distortion is prevented. Joints also absorb piping weight, wind loads, and other dead loads. Standard models take rotation only in one plane, but slotted hinges can be used for axial movement, although latter will not absorb axial pressure thrust. Three types are offered for pipe diameters of 3 to 72 in. • **Zallea Brothers**, 815 Locust St., Wilmington 99, Del.

▲ For more details circle NED-438 B on enclosed inquiry slip ▲

LOOK AT THE LEAK-PROOF **DYNAPUMP**



MODEL 420-D

COMPACT—integral pump-motor weighs only 7 lbs.
EASY TO MAINTAIN—can be serviced with a screwdriver.
RUGGED—wetted parts made of bronze or stainless steel.
VERSATILE—can be installed in any position.
LEAKPROOF—no seals, no stuffing box, self-lubricated.
LOW COST—prices start at $30 (OEM)

Write now for information . . . Dynapump Division, Fostoria Corporation, Huntingdon Valley, Pennsylvania.

DYNAPUMP®

▲ For more details circle NED-440 B on enclosed inquiry slip ▲

FORMED SPACER TUBES...
many shapes
many sizes

. . . at a saving over pipe and tubing!

Made from any formable metal—mild steel, copper, brass, bronze, aluminum, stainless steel.

Plating or finishing of any standard type—copper, zinc, nickel, cadmium, Parkerizing, Dulite.

Available in special shapes, tapers, seams, locks, and with ball indents for oil pockets . . . can be supplied copper-brazed to other components, and with copper-brazed seams. For free catalog, write to Federal-Mogul Division, 11079 Shoemaker, Detroit 13, Mich.

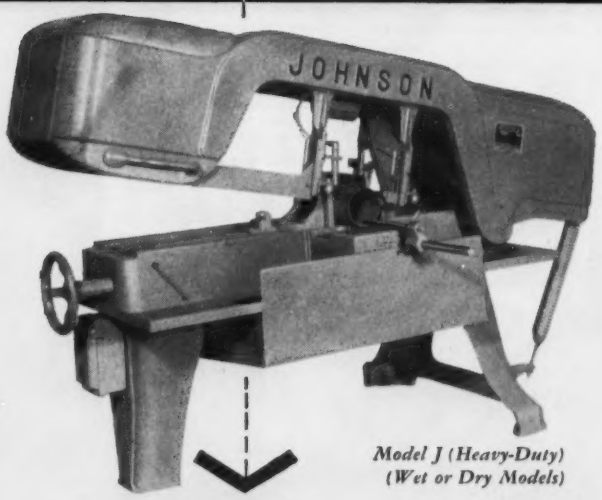
FEDERAL Mogul

FEDERAL-MOGUL sleeve bearings bushings spacers thrust washers DIVISION OF FEDERAL-MOGUL-BOWER BEARINGS, INC.

▲ For more details circle NED-441 B on enclosed inquiry slip ▲

THE BIG NEW **Johnson** "SPEAKS FOR ITSELF IN ANY SHOP!"

Johnson Model "J" . . . the heavy duty band saw that speaks for itself. No other saw handles so many operations so easily and so economically. Why pay more when a Johnson Model "J" can cut the 10" rounds, 18" flats and odd shaped steels of your shop in such labor saving time. The Big "J" is completely automatic—and is available in a wet or dry model, both with variable speed and centralized control system. You can't afford to miss any information on the rugged Johnson Model "J". Contact your dealer today!



Model J (Heavy-Duty) (Wet or Dry Models)

Eastern Distributor
R. J. R. KELLY CO.
Hale Bldg., 51 Main St.
East Orange, N. J.

Midwestern Distributor
W. Q. LUNDMARK
75 N. Broadway
Des Plaines, Ill.

Western Distributor
HASTINGS DISTRIBUTORS
1605 Solano Avenue
Berkeley, Calif.

Johnson MANUFACTURING CORPORATION
Barnes & Taylor Sts. • Albion, Michigan

▲ For more details circle NED-439 B on enclosed inquiry slip ▲

LET H&K PERFORATED MATERIALS

put personality into your products

When your products require perforated materials, you will find the pattern "just right" for that custom look in the vast selection of H & K existing dies.

H & K facilities enable the perforating of practically all metals, wood, compositions and plastics. Perforated materials can be furnished in sheets, coils, rolls or plates. Fabricating services include shearing, rolling, welding and forming.

Illustrated, in reduced size, are a few in the wide selection of H & K patterns.

Functional or Decorative Uses

For whatever purpose perforated materials are required, H & K can fill the need. Appropriate metals can be ordered with color anodized, brushed and lacquered, painted, chrome plated, baked-on, or other special finishes.

Many patterns in steel sheets are in stock. Send for H & K Stock List Brochure.

FIND NEAREST H&K AGENT in the Yellow Pages

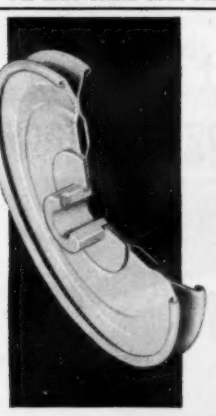
Listed Under "Perforated Metals"

Write for General Catalog No. 75, Today!

THE Harrington & King PERFORATING CO. INC.

Chicago Office and Warehouse • New York Office and Warehouse
5658 Fillmore St., Chicago 44 114 Liberty St., Dept. NED, New York 6

▲ For more details circle NED-442 B on enclosed inquiry slip ▲



Specify Strong Smooth Safe SALEM

COPPER BRAZED

FORMED STEEL PULLEYS

for your power transmission

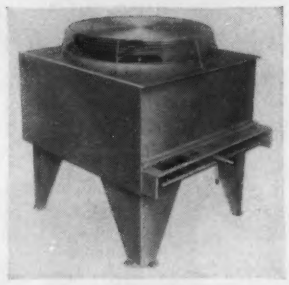
Engineered for Lawn Mowers, Garden Tractors, Compressors, Agricultural and Industrial Equipment. Smooth rolled edges reduce belt wear. Solid steel discs and hubs weather heavy loads and high speeds.

Write for Engineering booklet to help you specify your Pulley requirements.

SALEM STAMPING & MFG. CO., INC.
DEPT. 14 SALEM, OHIO

▲ For more details circle NED-443 B on enclosed inquiry slip ▲

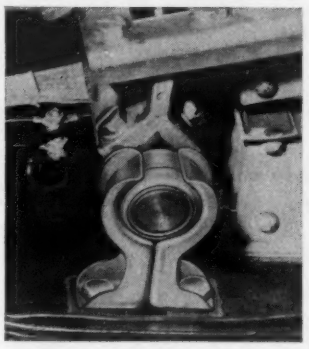
BLOWER CONDENSER
in 5 to 53.5-ton models



Air cool type low silhouette blower condenser for rooftop installation can be located anywhere without regard to prevailing wind. Most roofs with safe pounds-per-square-foot loading will easily support the unit. Air movement up and out keeps noise at a minimum. Models are available in ratings from 5 to 53.5 tons. • Dunham-Bush, Inc., 179 South St., West Hartford 10, Conn.

▲ For more details circle NED-445 B on enclosed inquiry slip ▲

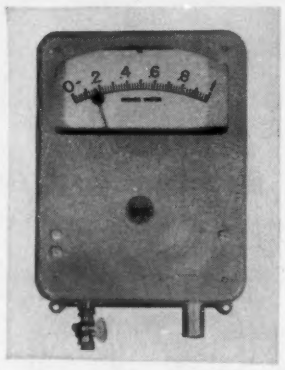
PILLOW BLOCK
self-aligning pedestal type



Stamped support with double - channel cross section provides this pedestal type pillow block with a sturdy mounting for sleeve type ball bearing units. The ball and socket combination for self-alignment speeds assembly time by eliminating the need for shimming machined surfaces. Company specializes in providing bearings and bearing mountings to meet unusual requirements not met by standard or stock equipment. • Triangle Mfg. Co., Oshkosh, Wis.

▲ For more details circle NED-446 B on enclosed inquiry slip ▲

PRESSURE INDICATOR
also transmits to remote recorder



Pressure indication at the point of measurement, or within 300 ft, is provided by Model 231 indicating transmitter. Unit also simultaneously transmits the pressure electrically to any Hays remote recorder or indicator. It measures pressure or differential pressure (flow) of air or noncorrosive gases in ranges from 0-0.2 to 0-120 in. water, and static pressure up to 65 psi. Field conversions from pressure to suction, or to differential service, are easily made. • Hays Corp., 980 Eighth Ave., Michigan City, Ind.

▲ For more details circle NED-447 B on enclosed inquiry slip ▲

Most Complete Line of Specialty Turrets on the Market!

. . . All Rockwood Turrets discharge FogFOAM, Solid FOAM Stream, WaterFOG, Solid Water Stream. You name it — Rockwood's got the turret —

- **Portable Type**—Off the truck and into action in seconds! Goes wherever a fire fighter can bring the proper hose line into action!
- **Direct Manual Control Type**—Gives fire fighters "out-in-the-open" control from cab roof!
- **Remote Manual Control Type**—Easily handled by man in driver's seat. Ideal for fast action!
- **Extended Manual Control Type**—Turret nozzles extend 10 to 20 feet above remote control station on deck or ground on standard units . . . greater remote extensions for special applications.
- **Remote Hydraulic Control Type** — Power-controlled from within the cab. Single and dual models. Widely used on air crash rescue fire-fighting trucks.

Get full details on the complete line of fire-fighting products. Write ROCKWOOD SPRINKLER COMPANY, Portable Fire Protection Division, 568 Harlow Street, Worcester 5, Massachusetts.

ROCKWOOD SPRINKLER COMPANY
A Division of The Gamewell Company
Engineers Water . . . to Cut Fire Losses
Distributors in all principal cities

▲ For more details circle NED-448 B on enclosed inquiry slip ▲

NEW

STEREOZOOM* MICROSCOPES BY BAUSCH & LOMB!

Breaking all sales records! Just try one in a free shop demonstration and you'll soon see why . . . they're the newest step forward to faster and easier 3D work.

EXCLUSIVE NEW OPTICS!

Get StereoZoom . . . continuously variable power! Just a turn of the knob gives an infinite choice of magnifications throughout the whole stereo range . . . to 120× on some models.

EXCLUSIVE NEW POWER POD DESIGN!

A wholly enclosed optical system in a single unit. Keeps out dust and dirt; eliminates old fashioned nosepieces, annoying image jump and blackout. NEW VERSATILITY, TOO! Your choice of StereoZoom or fixed power in a Power Pod that interchanges among any of the five basic microscope stands.

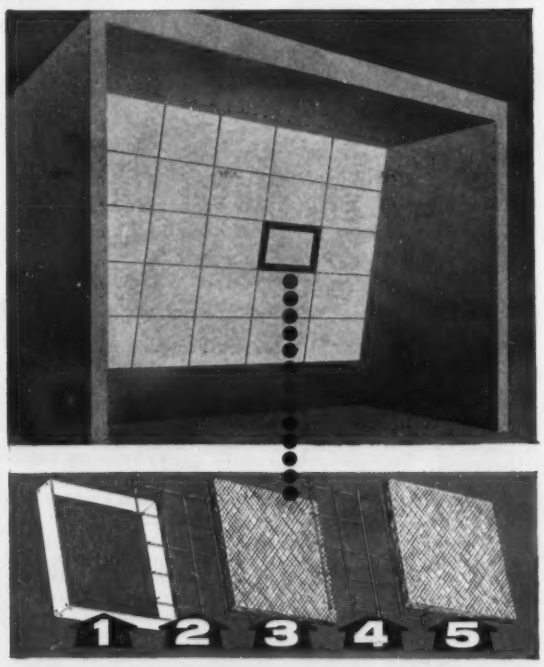
NEW LOW PRICE! About ⅓ lower than previous line.

*Trademark, Bausch & Lomb Optical Co.

BAUSCH & LOMB

BAUSCH & LOMB OPTICAL CO.
72702 Bausch St., Rochester 2, N. Y.
☐ Send me new B&L StereoZoom Microscope Catalog D-15.
☐ Schedule a demonstration at my convenience.
Name, Title.....
Company.....
Address.....
City..... Zone..... State.....

▲ For more details circle NED-449 B on enclosed inquiry slip ▲



A Paint Arrestor module consists of a Holding Frame (1), two Snap-in Grids (2 and 4), two Paint Arrestors (3 and 5). Loaded Paint Arrestors are simply replaced as necessary. And, they're also ideal for air-borne ink, mist, dye, frit, etc.

CONTROL PAINT OVERSPRAY the inexpensive, effective way!

The advantages of R P Paint Arrestors, the inexpensive, disposable air filters are many. Overspray solids are trapped before they reach the exhaust stack... to reduce fire hazards, damage to adjacent property... disagreeable and time-consuming maintenance work. Installation? —easy and fast. Maintenance? —remove loaded Paint Arrestor and replace a new one. Adaptability? —ideal for any type, any size booth, new or existing.

RP PAINT ARRESTORS

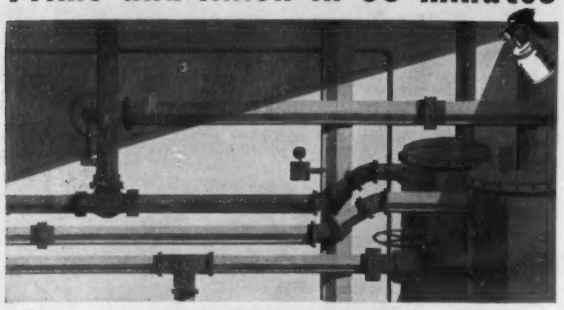
UL Listed

RP Products of Research

RESEARCH PRODUCTS Corporation
Dept. 32, MADISON 1, WISCONSIN

▲ For more details circle NED-444 B on enclosed inquiry slip ▲

Prime-and-finish in 90 minutes



with Tropical

SPRAY RHINAMEL

Inside or out, Tropical Spray RHINAMEL provides heavy-duty protection for years. Sprays smoothly, easily on wood or metal. Primes, finishes and dries in 90 minutes. Forms a hard, durable, glossy finish. For fast, economical repainting of machinery and equipment of all kinds, use Tropical Spray RHINAMEL! Write for detailed information, today!

Also RHINAMEL . . . *reinforced with Bakelite!* A rugged, hard-gloss, lasting finish. In 30 colors for brush application.

PARKER RUST PROOF PRODUCTS

HEAVY-DUTY MAINTENANCE PAINTS SINCE 1883

TROPICAL PAINT COMPANY
1124-1210 W. 70th, Cleveland 2, Ohio
SUBSIDIARY OF PARKER RUST PROOF COMPANY

▲ For more details circle **NED-450 B** on enclosed inquiry slip ▲

Measures Nonmagnetic Coatings with ± 5% ± .0001" accuracy

NEW pocket-size THICKNESS GAUGE

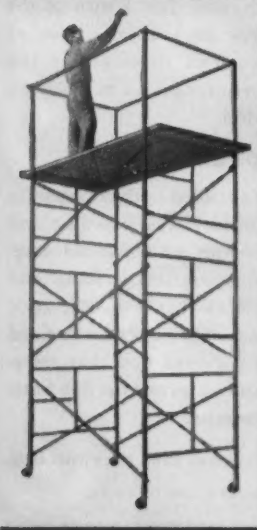
ELCOMETER measures thickness of porcelain enamel, paints, platings, foils, glass, paper, plastics, and other nonmagnetic coatings quickly and accurately. Gauges flat or curved surfaces and hard-to-get-at spots easily. Needle locking device assures correct reading every time. Complete with tough leather case, containing inner pocket for test strips, and carrying harness. Weighs only 6 oz.

FREE TRIAL. Ask your purchasing agent to order an Elcometer on trial basis. Retail price, F.O.B. Cleveland **ONLY $78.75**

FERRO

FERRO CORPORATION
4151 East 56th Street • Cleveland 5, Ohio

▲ For more details circle **NED-451 B** on enclosed inquiry slip ▲



ROLL to the job anywhere
REACH overhead work
. . . with

SAFWAY

built-up scaffold work towers

interchangeable parts assemble to any height and platform area

- build up towers to fit every job.
- work platforms at any levels.
- swiveling casters lock at the job.
- parts reassemble in many forms.

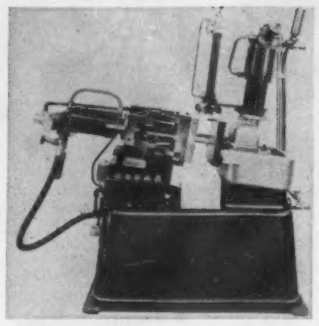
WRITE FOR FREE BULLETIN 82N

SAFWAY

SAFWAY STEEL PRODUCTS, INC., 6228 W. STATE ST., MILWAUKEE 13, WIS.

▲ For more details circle **NED-452 B** on enclosed inquiry slip ▲

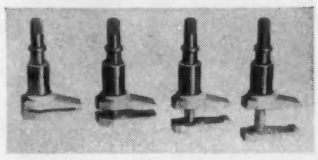
DIECASTING MACHINE imported single-cycle automatic



Succeeding the DCMT Imp/96, this English-made DCMT MAC 99 diecasting machine is pushbutton controlled, using a quick-attach electronic timer for single-cycle automatic operation. New machine has a four-way adjustable die unit and spacer plate. Tie bars can be placed horizontally or vertically, with or without spacer plate, for either center or below center shot. Dual Micro Switches which replace die overlock safety, and a sensing device which retracts toggles instantly if foreign matter gets in between die faces are safety features. • **DCMT Sales Corp.**, Dept. K14, 80 Shore Rd., Port Washington, N. Y.

▲ For more details circle **NED-453 B** on enclosed inquiry slip ▲

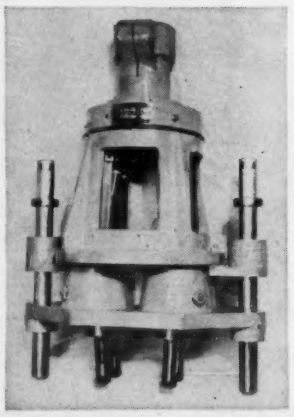
SIDE-GRIP CLAMP holds 0 to 15/16-in. thick material



Adjustments for light, medium, or heavy spring pressure can be made on the HDSG heavy duty side grip clamp, equipped with a heavy duty enclosed spring. It is adjustable for material thickness from 0 to 15/16 in. Zinc-base gripping jaws will not mar soft aluminum parts. Work is held in the 1 1/16-in. deep jaw throat or the 3/8-in. deep jaw heel. • **Monogram Mfg. Co.**, Kleko Clamp Div., 8557 Higuera St., Culver City, Calif.

▲ For more details circle **NED-454 B** on enclosed inquiry slip ▲

ADJUSTABLE ANGLE DRILLHEAD has four cartridge-type spindles



Multiple spindle drilling or tapping of holes at an angle is possible with the Thriftmaster universal joint-type adjustable drillhead with cartridge type spindle construction. The four-spindle, ball-bearing drill head taps four holes, each at a 4-degree angle with the vertical. Using a different cartridge plate permits minor changes of the center distance or angle of spindles. • **Thriftmaster Products Corp.**, 1010A N. Plum St., Lancaster, Pa.

▲ For more details circle **NED-455 B** on enclosed inquiry slip ▲

LOW-COST GEAR TRAINS

SMALL — LIGHT-WEIGHT
STURDY
and for almost
ANY SPEED RATIO

Manufacturers of moving displays, vending machines, turntables, instruments, scientific devices and many other items can now purchase standard or adapted gear trains for small motor operation with reduction ratios up to 1,334,838 to 1 — with little or no tooling costs.

Six standard frames — 336 styles — with steel frames, gears and shafts, brass pinions, shafts of required length and 3 types of bearings. Precision made, smooth running with minimum backlash. Complete line of motors available. And if your product requires a special gear train, we can produce it economically.

For small tooling charge, mounting brackets to accommodate other motors can be supplied.

6 Standard Frames
336 Styles
RATIOS Up To More Than 1,000,000 to 1.

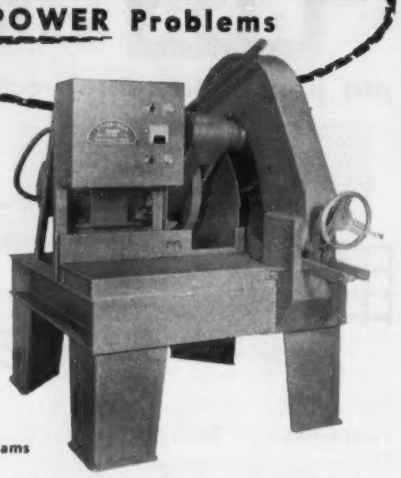
FREE TO ENGINEERS

Write for book showing styles, dimensions, ratios, voltages, quantity prices.

Wilson's of Cleveland
P. O. Box 8995, Fort Lauderdale, Florida
Specialists in Small Mechanical and Electrical Components

▲ For more details circle **NED-456 B** on enclosed inquiry slip ▲

New 30HP "CHOP" Saw Ends UNDERPOWER Problems



CUTS
- Steel structurals
- Bar stock
- Heavy cable
- Pipe
- Test sections
- Forging blanks
- Extrusion blanks
- High temperature alloys
- Rigging steel
- Fixtures and jigs
- Cross ties
- Heavy wooden beams

Now . . . power *when* you need it—*where* you need it—with the radically new 30 HP "CHOP" Saw for wet or dry cutting. Advanced features include more powerful main motor, sealed-bearing spindle, timing belt drive, and a new dynamic suspension system that permits light fingertip feed without springs, counterweights or adjustments. Provides straight or variable-speed oscillating feed at option of operator. Screw-operated double vise quickly adjusts to handle up to 8" x 8" sections or solids.

Ty-Sa-Man SINCE 1885

Write for FREE BROCHURE

TY-SA-MAN Machine Co., Inc.
550 White Ave., Knoxville, Tenn.

▲ For more details circle **NED-457 B** on enclosed inquiry slip ▲

NOW cut tight curves with line-hugging accuracy

NEW

Milwaukee CONTRACTOR'S TOOLS

16 ga. Metal Cutting *Electric* SHEAR

Cuts up to 17 ga. MONEL and STAINLESS

Here's the fast way to slash sheet-metal cutting costs. The new Model 200 MILWAUKEE Shear cuts any shape faster, easier, and with far more accuracy than was ever before possible.

With new advanced blade design, tight right- or left-radius cuts can be made smoothly, easily, and without jamming. The new blade slices easily through even Monel and up to 17 gauge stainless steel. . . without fouling or forcing. Cut metal is kept from curling by the built-in, full-length deflector plate.

Work edges are smoothly finished right along the cutting line, without further trimming or deburring. A quick twist of the adjusting screw positions the blade for cutting any sheet metal thickness up to 16 gauge . . . even heavier in trim cuts and aluminum.

See this completely new shear at your nearest MILWAUKEE Distributor, or write for bulletin SH-1.

MILWAUKEE ELECTRIC TOOL CORPORATION
5320 WEST STATE STREET
MILWAUKEE, WISCONSIN

Find Your Nearest Dealer in the Yellow Pages
look under "Tools—Electric"

A9-8013

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VIBRA-WASHER

. . . THE COMPLETELY NEW AUTOMATIC PARTS WASHER AND METAL CONDITIONING MACHINE

- Labor saving
- Automatic unloading
- For single or multi-stage operations
- No nesting of parts during cleaning or conditioning cycle
- Adjustable capacities to 10,000 lbs. per hour

The versatile new Simplicity VIBRA-WASHER, revolutionary machine for washing and conditioning of small metal parts, stampings and castings, employs a vibrating work carrier that automatically conveys parts through cleaning or conditioning bath. Solution is forced around parts, even into blind drillings and slots. In single stage, VIBRA-WASHER removes chips, oil and grease quickly . . . economically. In multi-stage, several units in line will provide cleaning, rinsing and phosphating, eliminating "between-stage" handling. Write today for Bulletin 107, to: Industrial Washer Division.

Simplicity TRADE MARK REGISTERED

212 ENGINEERING COMPANY • DURAND 15, MICH.

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Cover exposed ends of Screws, Studs, Rods with ACORN PALNUT® FASTENERS

3 TYPES AVAILABLE TO MEET DESIGN NEEDS

- Save on assembly parts, operations, time, cost
- Provide vibration-proof assemblies
- Low in cost
- Protect against scratching
- Add pleasing appearance

ACORNS that turn on screw threads

Spring steel PALNUT Acorn Lock Nuts apply fast with hand or power tools. Save weight and cost, stay tight. Many sizes and finishes, #6-32 thru 5/8"-16.

ACORNS that push on plain rod

PUSHNUT® Acorn Fasteners push on unthreaded rod or wire for tight assemblies. Save threading, grooving, drilling and cotter pins. Sizes from .120" to .312" dia. rod. Many finishes.

ACORNS that make their own threads

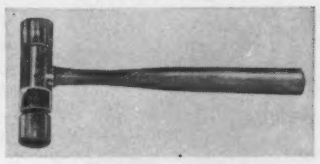
PALNUT Self-threading Nuts form deep, clean threads while tightening on plain studs, rod or wire. Fast assembly with standard tools. Vibration-proof—may be removed and re-used. Sizes for 1/4" and 3/16" dia.

WRITE for free samples and data, stating type, size and application

PALNUT® THE PALNUT COMPANY
Division of UNITED-CARR Fastener Corp.
45 Glen Road, Mountainside, N. J.
Canada: P. L. Robertson Mfg. Co., Ltd., Milton, Ont.
LOCK NUTS and FASTENERS

▲ For more details circle **NED-460 B** on enclosed inquiry slip ▲

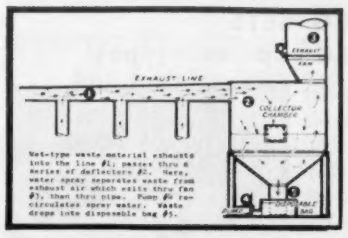
NO-BOUNCE HAMMER
head has two shot-loaded cavities



Replaceable plastic tips which screw on to the aluminum head of this no - bounce hammer provide two separate shot - loaded cavities. The straight - grained hickory handle, held in place by a plastic bushing, can be replaced without loss or spillage of shot. The loose shot eliminates rebound when striking with the hammer. Plastic tips prevent marking or denting of work. • **Metocraft Alloy & Plastic Co.**, 1039 Memorial Ave., West Springfield, Mass.

▲ For more details circle **NED-462 B** on enclosed inquiry slip ▲

WET POWDER COLLECTOR
in 8090 to 22,300-cfm deliveries



Wet-type powdery materials such as sawdust or sandy substances are removed from processing air by this waste material collector system. Wet material exhausted into line passes through series of deflectors where water spray separates waste from exhaust air which exits through a fan, then through a pipe. Waste drops into a disposable bag. Spray water is recirculated by a pump. System has no moving parts. Clean air deliveries range from 8090 to 22,300 cfm. • **Eastern Cyclone Conveyor Co.**, 876 Van Houten Ave., Clifton, N. J.

▲ For more details circle **NED-463 B** on enclosed inquiry slip ▲

RADIAL DRILL PRESS
drills to center of 32-in. square

Head of this versatile radial drill press swivels 360 degrees around column, enabling it to drill to the center, or at any point, of a 32-in. square. Head also tilts more than 90-degrees to the right and left. Applicable to pattern, woodworking, and light industry uses, machine will accurately sand, shape, route, mortise, and plug-cut. It affords speeds of 700, 1250, 2400, and 4700 rpm. The 23¾ x 15⅞ x ¾-in. table adjusts through 360 degrees and also provides proper work support for horizontal drilling. Price without motor is $89.50. • **Rockwell Mfg. Co.**, Delta Power Tool Div., 465 N. Lexington Ave., Pittsburgh 8, Pa.

▲ For more details circle **NED-464 B** on enclosed inquiry slip ▲

NEW WOOD'S ULTRA-V DRIVES OFFER TREMENDOUS SAVINGS!

UV/960

Wood's new Ultra-V Drives offer tremendous savings over conventional v-belt drives . . . up to 50% in space, 27% in weight, 30% and more in costs. And there are savings on bearings, bases and housings. New, greatly improved belt materials and new belt construction assure unmatched dimensional stability, amazing strength, greater grip, added support and equalized load for tension members. New, high performance, Ultra-V Sheaves have smaller diameters, less width, less weight and tremendous strength, are equipped with famous "Sure-Grip" Bushings.

Woods *write for bulletin 9102*

T. B. WOOD'S SONS COMPANY CHAMBERSBURG, PA.
ATLANTA • CAMBRIDGE • CHICAGO • CLEVELAND • DALLAS

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7 WAYS to Judge a Flammable Liquid Safety Can...

1. LEAKPROOF CONSTRUCTION
Seams are lap-joined and electrically welded into durable "one-piece" container capable of standing up to rough service.

2. "SHOCK-RIM" BOTTOM
Can bottom is raised 5/8" up into can body to provide protective rim around base of can.

3. DOUBLE WALL FLAME ARRESTERS
Provide a durable double barrier. If inner wall is damaged, outer wall provides protection until unit is replaced.

4. MECHANICALLY JOINED FILL SPOUT
Spout is "clinched" and soldered to top section of the can to withstand strain of repeated opening and closing.

5. LEAKPROOF SPOUT SEAL
Spring operated cap has ball and socket joint assembly to assure uniform, self-adjusting, liquid-tight seal of special leak-resistant gasket.

6. QUICK-ACTING DISPENSING VALVE
Convenient hand operation gives fast, positive control while pouring. Instantly shuts when pressure is released.

7. SHOCK GUARD CARRYING HANDLE
Handle design shields dispensing lever against accidental opening from shocks or bumps.

Protectoseal Safety Dispensing Cans incorporate these, and many more design and operating features to provide optimum safety and service. Because Protectoseal Safety Cans are built better to serve longer, they are your best buy.

When you are considering the purchase or specification of Flammable Liquid Safety Cans, investigate the "hidden values" you get in Protectoseal Products. Compare them, point by point, with any other can and you will see why they are the quality standard of the industry.

Protectoseal Safety and Storage Cans are made in a wide range of sizes and types. They are stocked in strategically located Protectoseal Warehouses and Service Centers for quick delivery.

Write for the new Catalog of Protectoseal Equipment for the safe storage, handling, and use of flammables.

THE PROTECTOSEAL COMPANY
1964 SOUTH WESTERN AVENUE • CHICAGO 8, ILLINOIS

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Nutting shows you "HOW"...

the widest choice of floor trucks in the world can cut your costs!

Nutting makes over 1000 products, here are just 15 of them

For regular or "special" design floor trucks it pays to talk to Nutting *first*. Here's why: no other company makes more models, sizes or combinations of equipment than Nutting. Many times items which you may find listed as "specials" with other makes are regular equipment in Nutting's complete line. As a result you get "custom built" type trucks at production line prices from Nutting. You not only get overall lower prices; you also get the benefit of 68 years of experience, design "know-how" and modern manufacturing skills. To save valuable hours of your time and get the right equipment for your plant, talk to a Nutting representative *first*, for all your floor truck needs!

Dollar for dollar, feature for feature Nutting is your best floor truck buy. Write for your free copy of new Junior Catalog 59G.

MEMBER CASTER AND FLOOR TRUCK INSTITUTE

Nutting TRUCK AND CASTER COMPANY
482 Division Street • Faribault 14, Minnesota

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GRC tiny die castings made in one fast automatic operation..simple or intricate parts, high in quality, low in cost

Gries' exclusive patented methods make possible wide design latitude . . . assure uniformity, accuracy and smooth surfaces on small parts of all types . . . for a wide variety of uses . . . at substantial savings. GRC die castings leave the machines trimmed, ready-for-use. In addition GRC's unique single cavity die casting techniques offer new shortcuts in assembly . . . new approaches in product design through our exclusive methods.

tiny zinc die castings

Write for fact-filled booklet "Small Zinc Alloy Die Castings," includes helpful designer's check list.

NO SIZE TOO SMALL!
Maximum sizes up to 1¾", ½ oz.

GRIES

GRIES REPRODUCER CORP.
World's Foremost Producer of Small Die Castings
143 Beechwood Ave., New Rochelle, N. Y. NEw Rochelle 3-8600

▲ For more details circle NED-467 B on enclosed inquiry slip ▲

Handiest TOOL IN THE PLANT!

NEW BULLETIN
Gives all the facts.
Ask for new Bulletin

CLEMENTS
Cadillac® BLOWER-SUCTION CLEANERS

Portable — versatile — economical. Simplest, quickest way to clean motors, machinery and other equipment. Pays for itself in any plant. Ask your dealer for a demonstration.

4 BLOWER-SUCTION MODELS
...including powerful Model HP with 2-speed motor for double duty. Easy starting at low speeds prevents blowing of fuses. All models available with attachments for handling many special tasks.

HANDLES 101 CLEANING JOBS
Blows dust, grit, chips and filings from hard-to-reach places. Use it as a suction cleaner for all kinds of jobs, or even to salvage bits of rare metal. Other models for annealing, soldering, and for preheating for bending.

BLOWER DIVISION | **CLEMENTS MFG. CO.**
6627 S. Narragansett Ave., Chicago 38, Ill.

SINCE 1910 Specialists in Quality Cleaning Equipment

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VYCOR® GLASSES

transmit 85% to 90% IR at 900°C.

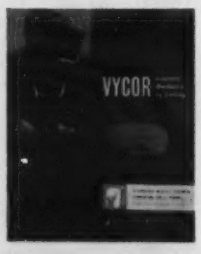
When you want to transmit infrared in a hot environment, take a look at these VYCOR brand glasses:

A 2 mm sheet of VYCOR No. 7905 glass will transmit 90% of the wave lengths up to 3.0 microns. A ⅛ inch thickness will transmit 80% of the waves out to 2.75 microns.

VYCOR No. 7950 glass transmits IR while absorbing most of the visible light waves.

Both glasses will function continuously at 900°C. and up to 1200°C. for intervals. They withstand thermal shocks from these temperatures down to 0°C. They actually increase in mechanical strength at elevated temperatures.

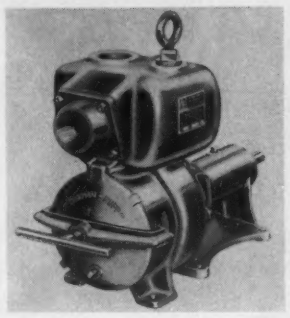
Write for a new bulletin on these glasses which includes the forms and sizes available. Address: Technical Products Division, 56 Crystal Street, Corning, New York.



CORNING GLASS WORKS
CORNING MEANS RESEARCH IN GLASS

▲ For more details circle NED-469 B on enclosed inquiry slip ▲

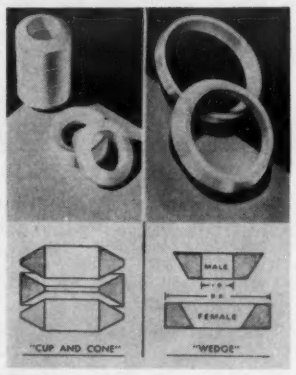
SOLIDS-HANDLING PUMPS
capacities are from 40 to 220 gpm



Spherical solids with diameters up to 1⅛ in. readily pass through this Model 12B2 self-priming centrifugal solids - handling pump. It has 2-in. suction and discharge, and mounts above the sump with only the suction immersed. Removable end plate facilitates inspection and maintenance, and the wear plate is renewable. Capacities range from 40 to 220 gpm. Also available are 3, 4, and 6-in. sizes. • **Gorman-Rupp Co.**, 305 Bowman St., Mansfield, Ohio.

▲ For more details circle NED-470 B on enclosed inquiry slip ▲

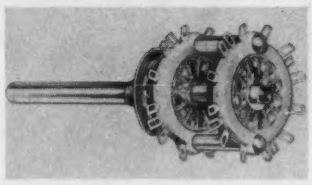
TEFLON PACKING SETS
in wedge and cup-cone types



Tight, secure seals under minimum gland pressure are obtained with No. 300 Cup and Cone and No. 305 Wedge packing ring sets. Both are applicable for static and semistatic packing uses where rotation is not a factor. By the proper combination of resilient, sensitive Chempro Cup and Cone or Wedge rings with pressure - resisting No. 101 Teflon packing rings, combination sets afford long service life in both rotating and reciprocating service under extremely corrosive or abrasive conditions. Sizes for every need are available. • **Chemical & Power Products, Inc.**, 11 Broadway, New York 4, N. Y.

▲ For more details circle NED-471 B on enclosed inquiry slip ▲

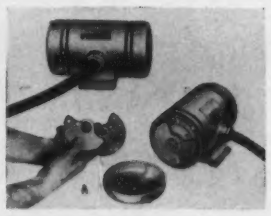
MINIATURE ROTARY SWITCH
stacked wafers have 12 positions



Terminals of Type 212 miniature rotary switch are firmly molded into the housing and cannot turn or twist out of place. Suited for low power selector switching, the 1⅛-in. diameter unit has a high-strength molded glass alkyd housing which meets MIL standards. Wafers can be stacked on top of each other without spacers. They have 12 positions, are suited to most circuits, and are equipped with laminated coin silver contacts. • **Trolex Corp.**, McHenry, Ill.

▲ For more details circle NED-472 B on enclosed inquiry slip ▲

ELECTRIC BIN VIBRATOR



force of vibration can be varied

Silent operation characterizes this new motor - driven adjustable eccentric vibrator in which eccentric weights are mounted at the two ends. The weights can be closed into a semi-circle for maximum force or opened into a three-quarter circle for minimum vibration. They are held together with a bolt.

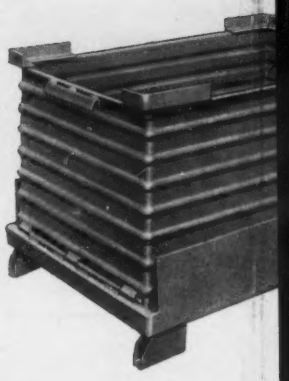
Type RC-10, smallest in the line, provides six settings ranging from 140 to 550 lbs. of equivalent impact. Type RC-30 has seven settings from 385 to 1,110 lbs., and Type RC-50 provides a range of 750 to 2,250 lbs., also in seven settings. The eccentrics are protected beneath end covers after they have been set for desired action.

THE CLEVELAND VIBRATOR CO.
2744 Clinton Avenue • Cleveland 13, Ohio

▲ For more details circle NED-473 B on enclosed inquiry slip ▲

LOOK TO UN

for boxes pallets skids



UNION METAL
Material Handling Equipment

▲ For more details circle NED

PERSONS WHO ARE IN THE K

HATFIELD Electri

a leading electrical contracto
FUSETRON dual-element
in its new office build

Owner and Electrical Contractor: Hatfield Electric Co., Cleveland, Ohio
Architect: Dalton-Dalton Associates, Cleveland, Ohio
General Contractor: Hunkin Conkey Construction Co., Cleveland, Ohio
Albert M. Higley Co., Cleveland, Ohio

THERE IS A BUSS OR FUSETRON FUSE FOR EVERY ELECTRICAL N

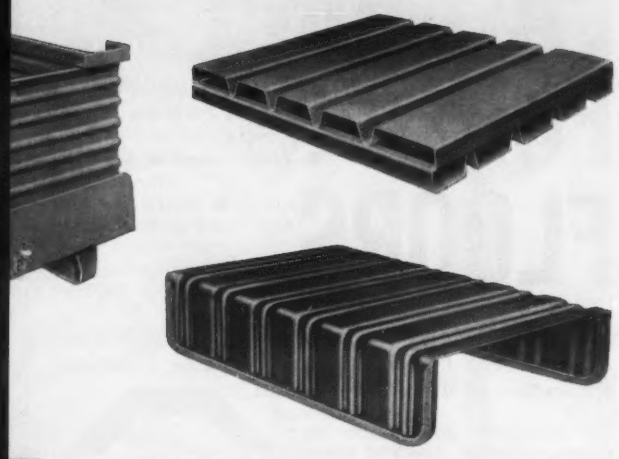
▲ For more details circle NED-

The Authorized SKF

Spherical, Cylindrical, Ball, and Timken *Tapered Roller B*

▲ For more details circle NED-

ION METAL



Detailed information covering advantages, features and complete range of designs is readily available.

THE UNION METAL MANUFACTURING COMPANY
Canton 5, Ohio • Brampton, Ontario

74 B on enclosed inquiry slip ▲

NOW ARE SPECIFYING FUSES!

c Co., r, installs FUSES ng.

Mr. Brown, Vice-President tells why...

"For our own buildings and our recommendations to our industrial and commercial customers, we feel that FUSETRON fuses are the most reliable means of over-current protection that has been made available.

"We require protective devices for industrial and commercial application that not only provides adequate short-circuit protection but also protects against needless blows. In dead-front panel equipment it is especially desirable that they operate cool and efficiently. Of course FUSETRON fuses provide all of this.

"The additional protection features of these devices are of continual interest to our customers, and we feel their use is to our mutual benefit."

William L. Brown
V. P. Hatfield Electric Co., Cleveland, Ohio

FUSETRON fuses are not mechanically operated devices, — so they remain SAFE no matter how many years they are in service. They have an interrupting rating of 100,000 amps. rms symmetrical — adequate for today's conditions and for anticipated growth in service demands.

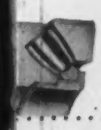
For more information on Fusetron fuses, — write for bulletin FIS. 260

EED. Bussmann Mfg. Division, McGraw-Edison Co., St. Louis 7, Mo.

475 B on enclosed inquiry slip ▲

Distributor always comes up with the right bearing

—because he stocks SKF bearings, the most complete line of types and sizes available today. 5919

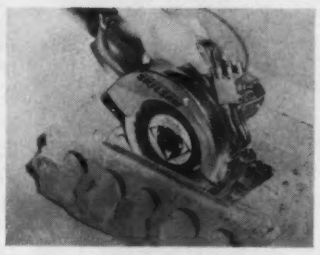


earings

EVERY TYPE—EVERY USE
SKF®
SKF INDUSTRIES, INC., PHILADELPHIA 32, PA.
*REG. U. S. PAT. OFF.

476 B on enclosed inquiry slip ▲

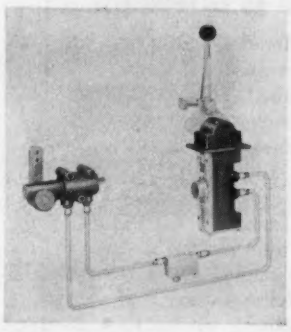
MASONRY SAW BLADES reinforced type is shatterproof



Resistance to heat and subsequent rapid wear is built into this line of low cost masonry cutting saw blades. Glass fiber reinforcement renders them shatterproof in use or when dropped. Balanced blades also resist burning and loading, and nicks or chips are automatically dressed out while in use. Sandstone, limestone, concrete block, reinforced concrete, nonferrous metals, and wallboard can be cut by the blades, offered in 6 to 14-in. sizes to fit any arbor. • **Black Diamond Blade Co.**, 9824 W. Capitol Dr., Milwaukee, Wis.

▲ For more details circle NED-477 B on enclosed inquiry slip ▲

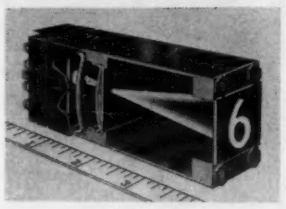
REMOTE CONTROL SYSTEM has vernier-lock for positioning



The Hydronic remote control system (*NED, Nov. '58*), a manually-operated hydraulic linkage for positioning, controlling, and duplicating movement at a distance, is now available with a vernier-lock. System is used for control or positioning of valves, clutches, brakes, throttles, transmissions, feed mechanisms, engines on test stands, and similar applications. With the vernier-lock, master unit lever is moved to approximate location and locked. Vernier then permits lever travel of ±5 degrees for precise positioning. • **Hydronic Corp.**, 12685 Arnold Ave., Detroit 39, Mich.

▲ For more details circle NED-478 B on enclosed inquiry slip ▲

MINIATURE DIGITAL READOUT displays a 5/8-in. high character



This miniaturized digital readout for use with digital computers, control equipment, instruments, and production controls operates by rear projection. When one of 12 lamps at rear of unit is lighted, the lamp projects the corresponding digit onto the front viewing screen. Size of character displayed is 5/8 in. Aluminum case mounts on 1-in. centers. Quick disconnect at rear facilitates lamp replacement. Price is $35. • **Industrial Electronic Engineers Inc.**, 5528 Vineland Ave., North Hollywood, Calif.

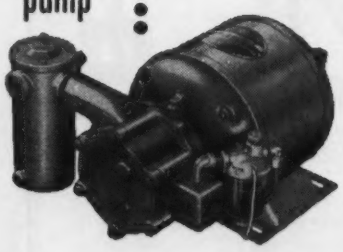
▲ For more details circle NED-479 B on enclosed inquiry slip ▲

NEED VACUUM?

use the COMPACT pump

The Motoair Pump is built integral with its own motor to take the least amount of space and to avoid extra assembly necessary with separate drive.

Automatic lubrication complete with re-circulating system and visible oil reservoir is a feature of



the MOTOAIR®

Instantaneous suction and positive action is provided with the Motoair, being directly driven at the same rpm. as the motor.

ASK FOR CATALOG with performance data on various sizes of pumps. Oil-less models also available.

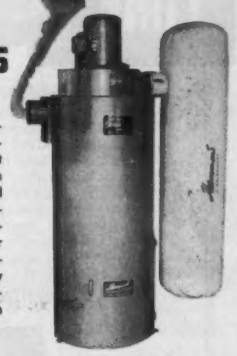
824

NEW JERSEY MACHINE Corporation
FACTORY SALES AND SERVICE BRANCHES
CHICAGO, CINCINNATI
LOS ANGELES
1550 WILLOW AVENUE, HOBOKEN, N. J.

▲ For more details circle NED-480 B on enclosed inquiry slip ▲

Dust

TRAP THIS DANGEROUS ENEMY with Hammond DUSKOLECTORS



Dust is a serious problem in most industrial plants. With Hammond DUSKOLECTORS you trap this dangerous enemy at its source before it can harm the health and efficiency of your employees and damage valuable machinery. Your cleaning and painting costs will also be reduced. Hammond DUSKOLECTORS offer you the best and most economical solution to your dust problems. Write today for catalog with helpful engineering information and interesting installation views.

"A MUST FOR DUST!"

Hammond Machinery Builders INC.
1623 DOUGLAS AVE. • KALAMAZOO, MICHIGAN

▲ For more details circle NED-481 B on enclosed inquiry slip ▲

3 WAYS YOU SAVE TIME with this New, Low-Cost AIR REEL

NEW, low-cost GRACO Air Hose Reel has three-way utility to save time and effort in using air-powered hand tools! Runs free . . . stops at 9 in. intervals . . . or adjusts to balance the tool. Only 12 in. high, 10 in. deep, 5 in. wide . . . it's a money-saving midget! Bolts to wall, post or ceiling . . . includes 15 ft., 1/4 in. ID air hose. Gives you more *working* freedom . . . *investigate today!*

RUNS FREE! Allows free-wheeling work within 15 ft. radius. Spring pick-up gives effortless hose retraction.

STOPS! Simple touch of a lever activates ratchet to provide automatic latch stops every 9 ins. . . . 19 stops in all.

BALANCES! Spring tension on hose pickup easily adjusts to counter-balance weight of the tool. Saves muscle power!

See your local supplier or write today for details!

GRACO ENGINEERS AND MANUFACTURERS
GRAY COMPANY, INC. • 27 Graco Square • Minneapolis 13, Minn.
(See Phone Book Yellow Pages, Spraying, for Local Graco Suppliers)

▲ For more details circle NED-482 B on enclosed inquiry slip ▲

NEW AN EXCEPTIONAL DEVELOPMENT IN THE COMPOUNDING OF RUBBER CUSHIONED ABRASIVES

Semi-Firm Binder Brightboy GB

New GB rounds out the Brightboy line—the only complete, comprehensive STOCK line of multi-use soft rubber bonded abrasives which brings you a revolutionary concept of finishing; *time saving operations not previously associated with abrasive uses.*

BENEFIT FROM BRIGHTBOY'S 49 STOCK COMPOUNDS: 4 basic binders: ST, Soft; GB, Semi-Firm; BL, Firm; TT, Tough. *6 grain sizes* from extra coarse to extra fine, *2 grain types,* Silicon Carbide and Aluminum Oxide. And Fine-Tex, compounded with pumice abrasive.

WRITE TODAY FOR DETAILED INFORMATION AND APPLICATION SUGGESTIONS.

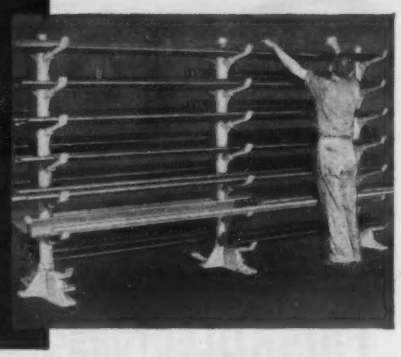
WELDON ROBERTS Brightboy RUBBER CUSHIONED ABRASIVES

BRIGHTBOY INDUSTRIAL DIVISION
WELDON ROBERTS RUBBER CO.
95 North 13th Street
Newark 7, N. J.

America's Pioneer Manufacturer of Rubber-Bonded Abrasives

▲ For more details circle NED-483 B on enclosed inquiry slip ▲

SAVE SPACE • SAVE TIME



Store and remove stock quickly—either by hand, fork truck or overhead crane—using the proved Brown Method for efficient storage. Brown Stock Racks, spaced as required, store more in less space . . . reduce handling from a long end haul to a short lateral movement. Stock is quickly visible for fast selection . . . easily accessible from the sides or ends.

Very low installation costs . . . all components are slip-fitted . . . no bolting or tools needed. Base brackets, trays and other accessories are available to increase usefulness. Both single arm wall racks and double arm racks are available.

Brown Engineering Co., 129 N. 3rd St., Reading, Pa.

■ Get complete data on Quick-Serve Racks. Write today for bulletin.

BROWN FLEXIBLE STOCK RACKS

▲ For more details circle NED-484 B on enclosed inquiry slip ▲

ANNOUNCING NEW HIGH PRODUCTION END FINISHER

for • TUBE • ROD • PIPE

New Model 660 Speeds Chamfering • Deburring • Facing • Drilling • Reaming • Tube-End Spinning

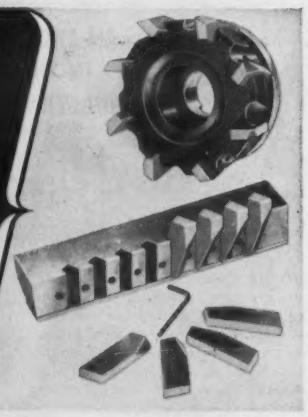
- Rugged new design for high production, easy operation, faster feeds on simultaneous inside-outside deburring, chamfering, facing.
- New rigid, unitized spindle frame and heavier base retains close concentricity between the tool holder and chuck jaws.
- Simplified setup, operation, maintenance . . . one-minute speed changes with new hinged safety guard and pivoted motor mount.
- Production to 800 ends an hour . . . capacity to 2" O.D. . . . air operation, larger units or special machines are also available.

Write for catalog giving cost cutting features, production data, complete specifications.

PINES ENGINEERING CO., INC.
Specialists in Tube Fabricating Machinery
641 WALNUT • AURORA, ILLINOIS

▲ For more details circle NED-485 B on enclosed inquiry slip ▲

CUT YOUR MILLING COSTS to a FRACTION ... with MILL-EZE



MILL-EZE MILLING CUTTERS (are designed to suit the widest range of milling operations . . . One size blade fits all diameters of Mill-Eze cutters. Cutting angles are incorporated into the design of the blades, eliminating the need to stock numerous cutter bodies for various machining operations.

MILL-EZE SHARPENING FIXTURES (lets you sharpen cutter blades with a surface grinder in your own shop in a matter of minutes . . . replace into cutter within .0005 tolerance.

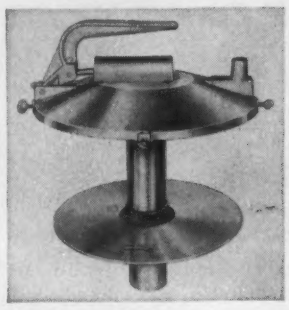
High quality MILL-EZE milling cutters are available in 3½" to 8½" diameters, using the same blades. Cutters take from 6 to 14 blades, depending on diameter, and blades of H S S, Electrite-Dynavan steel or carbide tipped can be either right or left hand. Blades fit tightly into slots, backed by accurate height adjustable stop; and are held securely without wedges or shoes. Blade sharpening fixture takes 6 to 14 blade sizes, and facilitate sharpening all blades at one time on any surface grinder. Inquire today . . . and see how MILL-EZE can help you.

Exclusive territories available to qualified representatives.

PREFERRED INDUSTRIES, INC. 8500 Lyndon Detroit, Mich.

▲ For more details circle NED-486 B on enclosed inquiry slip ▲

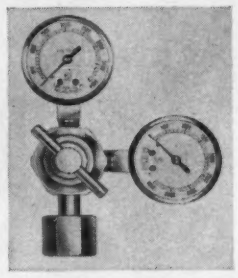
GREASE DISPENSER fills guns or packs bearings



This all-purpose dispenser pump for grease, liquid Thiokol, and other viscous or tacky materials is made in two sizes to fit 25 and 35-40 lb straight-side lug-type pails. It can be used as a grease gun filler or bearing packer. Discharge chamber is filled on vacuum-creating back stroke of lever and material is discharged on forward stroke. Follow-plate seal with double O-ring will not let in air. Bearing packer cone with tapered nipple is available for packing roller or ball-type bearings in sizes from ¾ in. ID to 7 in. OD. • **Comet Equipment Co.**, 2578 Harney St., Omaha 31, Nebr.

▲ For more details circle NED-487 B on enclosed inquiry slip ▲

PRESSURE REGULATOR reduces 3000 psi to 0-1500 psi



Less than 6 in. high, the Model 10806 diaphragm pressure regulator has various inlet connections for any high pressure, noncorrosive gas. It reduces pressures up to 3000 psi to any pressure from 0 to 1500 psi. Device has a brass body and bonnet and 0 to 4000-psi inlet and delivery gages. A T-bar adjusting screw regulates delivery pressure. Connections are ¼ in. NPT. • **Bastian-Blessing Co.**, RegO Div., 4201 W. Peterson Ave., Chicago 46, Ill.

▲ For more details circle NED-488 B on enclosed inquiry slip ▲

EMERGENCY POWER UNITS supply 40 to 150-w 110-v ac outputs

In addition to providing alternating current power, emergency Sentry-Lite units also supply emergency lighting automatically upon power failure. Five standard models have 110-v, 60-cycle outputs of 40 to 150-w. Special voltages and cycle outputs are also offered. Standard models illuminate a 70 x 90-ft area with a directional type lamp. Upon failure of the main power supply, a relay lights the lamp and starts the motor-generator. The replaceable cell battery is kept fully charged automatically. • **Scranton Cellomatic Battery Corp.**, Sentry-Lite Div., Archbald, Pa.

▲ For more details circle NED-489 B on enclosed inquiry slip ▲

REED

Steady— AS THEY'RE Sturdy!

The Reed Tripod has a patented folding tray which locks legs rock-bottom solid to prevent spring and recoil. Tripod, with quick 'n-easy set-up and take-down, folds compactly for light, one-hand carrying.

○ Convenient fumble-proof side handle on improved *Chain Vise* avoids bruised knuckles. The ⅛" to 4" capacity makes it exactly right for jobs in maintenance and construction.

□ Patented Reed long-bearing alloy steel jaws enable *Yoke Vise Model* with slight handle pressure, to hold any pipe from ¼" up to 2½". Lost motion eliminated by Reed special features.

ASK YOUR SUPPLIER OR WRITE FOR FREE LITERATURE.

REED MANUFACTURING COMPANY
ERIE • PENNSYLVANIA, U. S. A.

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FAST REPAIR, PATCHING FOR FLOORS...

- *Asphalt Mastic—Flooring Clay Emulsion Binder*
- *Latex Concrete Patch (small work)*
- *Latex Industrial Flooring (large work)*
- *Epoxy Flooring —for problem floors*

Keep factory and other work floors comfortable and accident free with these Flintkote Flooring Products—all are trowel finished.

For complete information on mixes, coverage, uses and speed of application write: The Flintkote Company, Industrial Division, 30 Rockefeller Plaza, New York 20, N. Y.

FLINTKOTE

Manufacturer of America's Broadest Line of Building Products

▲ For more details circle NED-491 B on enclosed inquiry slip ▲

It's easy to cut costs with this hopper. Use it instead of a tote box for handling all kinds of wet or dry, hot or cold bulk materials. Pick it up with your lift truck . . . move it to its destination . . . flip the latch and the hopper automatically dumps its load, rights itself, locks itself. One man does the entire job in a fraction of the usual time. Roura Self-Dumping Hoppers are ruggedly built of 3/16" steel plate with continuous arc-welded seams. Five sizes, ½ to 2 yard capacity, mounted on live or semi-live skids with choice of wheels. Standard models shipped from stock. Also available in stainless steel or galvanized. For details and literature, write ROURA IRON WORKS, INC., 1415 Woodland Ave., Detroit 11, Mich.

ROURA Self-Dumping HOPPER

▲ For more details circle NED-492 B on enclosed inquiry slip ▲

SAVE UP TO 80% ON LAYOUT COSTS with the REVOLUTIONARY New PORTAGE LAYOUT MACHINE*

- Entirely new concept-layouts up to 8 times faster.
- Lays out workpieces on all four sides, top and bottom—checks inside surfaces with one setting of casting or workpiece.
- No special training needed . . . experienced layout man can learn to operate this machine efficiently in about 30 minutes.

*Patent Pending

Portage Double-Quick, Inc.
1043 SWEITZER AVENUE • PHONE PORTAGE 2-7425 • AKRON, OHIO

▲ For more details circle NED-493 B on enclosed inquiry slip ▲

DiaTest SMALL BORE GAGES

in NEW, wide range **OF SIZES!**

DIAMETERS: .057" to 1.130"
ACCURACY: .00008"

Four sets (6 to 9 measuring heads each, 6 to 9 setting rings, 1 Dial Indicator, etc.) cover range .057 to 1.130".

DiaTest gages check out-of-round, tapers, incomplete bores and all other variations.

RIGHT ANGLE ATTACHMENT, EXTENSION RODS, DEPTH ADJUSTER, and SPECIAL HEADS to measure flush to the bottom of closed holes, are useful additional accessories.

All parts obtainable separately.

Write today, or call NEwcastle 1-8888 for full information!

FOSTER SUPPLIES CO.

6122 MILWAUKEE AVE., DEPT. NED.
CHICAGO 46, ILLINOIS

▲ For more details circle NED-494 B on enclosed inquiry slip ▲

Adjustable to various strap widths

Strap Faster, More Efficiently...

USING ONLY ONE TOOL!

New A. J. Gerrard Stretcher-Sealer combines three strapping operations .... tensioning, sealing, scoring for easy fast break-off. Speeds up production, reduces operator fatigue, eliminates strap waste. For complete specifications, circle reader service card or write:

A. J. GERRARD & COMPANY / STRAPPING MATERIALS

1954 Hawthorne Boulevard • MELROSE PARK, ILLINOIS

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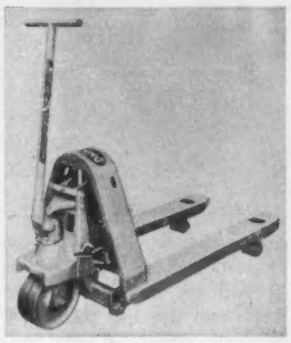
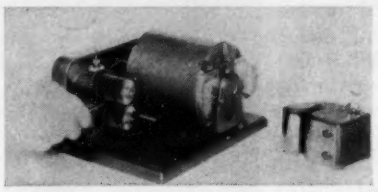
HYDRAULIC LIFT TRUCK
lifts 3000-lb pallet loads 4 in.



Double or single-faced pallet loads up to 3000 lb are handled by this hydraulic hand lift truck made in fork frame lengths of 32, 36, 42, 48, 54, and 60 in. Fork widths are 19, 25, 27, and 30 in. Loads are lifted 4 in. with seven easy strokes of handle. Foot pedal release controls lowering of load. Rubber-tired front wheels and aluminum rear wheels are standard, although steel, Flor-Savr, and polyurethane surfaces are optional. • **Yale & Towne Mfg. Co.**, Yale Materials Handling Div., 11,000 Roosevelt Blvd., Philadelphia 15, Pa.

▲ For more details circle NED-497 B on enclosed inquiry slip ▲

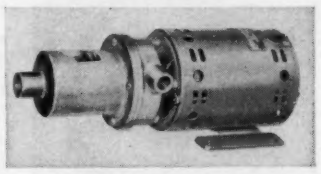
WIRE STRIPPER
removes film or bonded insulation



Single or stranded wires in sizes from AWG No. 17 to 45 are handled by Model 12 twin-wheel insulation stripper. The power driven machine effectively removes enamel, Formvar, nylon, Cerox, glass, Teflon, and other film and bonded type insulations, or combinations of them without damage to the conductor. Machine is powered by a 1/4-hp, 110-v motor, and costs $175. • **Carpenter Mfg. Co.**, Box 217, DeWitt 14, N. Y.

▲ For more details circle NED-498 B on enclosed inquiry slip ▲

SPECIAL APPLICATION PUMPS
24 models rated to 1200 gph



Only moving part in this Moyno special application pump is a stainless helical screw rotor which turns within a fixed rubber stator having a double internal helical thread. This progressing cavity pumping principle assures uniform flow of pumped materials which can range from water-like liquids to heavy, abrasive slurries and substances with large suspended particles. Pump has good air-pumping characteristics and is offered in 24 models with deliveries ranging from metering flow to 1200 gph. Discharge heads range to 300 psi. Units are offered with or without direct-connected motor. • **Robbins & Myers, Inc.**, Moyno Pump Div., 1345 Lagonda Ave., Springfield 99, Ohio.

▲ For more details circle NED-499 B on enclosed inquiry slip ▲

A skilled craftsman uses a Foredom machine with a fine dental burr to finish off the carving of the earth's contours on the 6' 3" diameter, 3-dimensional epoxy globe designed and built by Geo-Physical Maps, Inc., NYC. The first of its kind, this globe sets a new standard for scholarly research and manufacturing techniques, and the finest tools available were chosen to execute the intricate detail involved.

all over the world...

FOREDOM
FLEXIBLE SHAFT MACHINES
do the most intricate jobs... better!

Grinding & finishing • Buffing & polishing
Engraving & marking • Sanding & brushing
Tool maintenance • Mold & die work
Filing • Deburring

More and more craftsmen handle small precision jobs faster, better and easier with Foredom Flexible Shaft Machines—whether they work in metal, plastic, leather, rubber, wood or glass. They like Foredom's variety of slim handpieces which give perfect control at all speeds. Inexpensive, easily portable, these machines are ideal for both maintenance and production. For more information, write today for catalog. 210-NE2

FOREDOM ELECTRIC COMPANY, INC.
BETHEL, CONNECTICUT

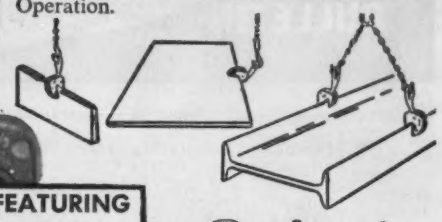
F Since 1922 SERVICE QUALITY

▲ For more details circle NED-496 B on enclosed inquiry slip ▲

YOUR BEST MOVE IS TO MOVE WITH
MERRILL
MATERIAL HANDLING DEVICES FOR THE MOST IN *Safety and Economy*

6 SIZES

Imitated, but never duplicated, Merrill Lifting Clamps are Drop Forged to give you Safety in Handling and Economy in Operation.



FEATURING THIS MONTH...

SINGLE DRUM LIFTER

Over 25 Material Handling Devices described in our catalog C-2.
Ask for a copy.

MERRILL BROTHERS
56-13 Arnold Ave., Maspeth, N. Y.
1-60A

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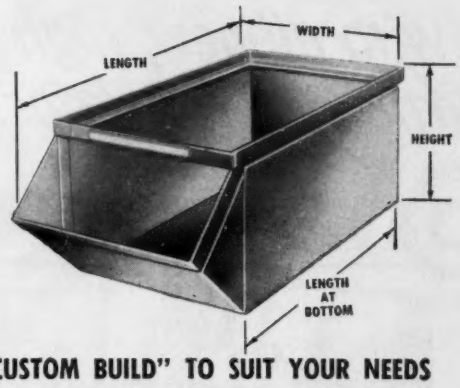
MODERNIZE YOUR STOCKROOM AS YOU REBUILD YOUR INVENTORY!



"CUSTOM BUILD" TO SUIT YOUR NEEDS WITH MULTI-PURPOSE STACKBINS

In processing...
portable Stackbins carry common parts and supplies to points of usage without time-wasting transferal to other containers.

In storage...
Stackbins stack securely to any desired height, with or without Stackracks. Floor space requirements reduced—stock capacity increased.

In assembly...
Stackbin flexibility permits adapting assembly station to production requirements.

Available in sizes to suit your requirements

Bin No.	Width	Length	Bottom Length	Height	Weight (lbs.)
00	3½"	6"	4"	3¾"	1¼
0	4½"	8"	6"	4½"	1¾
1	5½"	12"	10"	4½"	3
2	7½"	15½"	12¼"	6"	5½
3	9"	18¾"	14¾"	7½"	9
4	12"	20½"	15¾"	9½"	14
5	15"	24"	18¼"	11"	20½
6	18"	30"	24"	12"	29

COMPARE THE PRODUCT
COMPARE THE PRICE

STACKBINS ARE MADE of heavy gauge steel, all-welded construction with positive stacking rim. Full flow hopper front and smooth interior make contents always visible—always accessible.

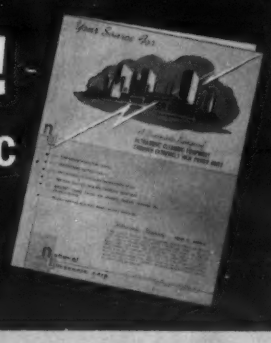
All Stackbin products are sold direct. Write for more information today!

STACKBIN CORP. 1081 Main St., Pawtucket, R. I.
Mfd. & sold exclusively in Canada by: Wickware-Stackbin, Ltd., Perth

STACKBIN® SYSTEM
"Stacked and Still Accessible"

▲ For more details circle NED-501 B on enclosed inquiry slip ▲

FREE! ULTRASONIC CLEANING BULLETIN



Describes National Ultrasonic Corporation's:

- Applications Laboratory service. Your sample parts are cleaned ultrasonically and equipment and cost recommendations are made at no charge.
- STANDARDLINE medium power cleaners for all applications requiring average energy levels.
- HEAVYDUTYLINE high power cleaners for industrial applications requiring high energy density.
- NUclean solvents and detergents especially formulated for ultrasonic cleaning.

NATIONAL ULTRASONIC CORP.
111 Montgomery Ave., Irvington 11, N. J.
ESsex 1-0550 • TWX NK 1030

▲ For more details circle **NED-502 B** on enclosed inquiry slip ▲

now! with all-new, high efficiency regulator!

ALEMITE AIRLINE CONTROLS

Complete "Tri-Duty" package assures cleanest, driest, best-regulated airline lubrication!

1 Automatic Water Separator. Removes all of condensate, all the time. Traps dirt particles to prevent damage to sensitive airline devices. Handles all airline pressure up to 200 PSI and flow volume from 5 to 50 CFM. *Easily accessible filter unscrews by hand for simplest possible cleaning . . . just one piece . . . no tools required.*

2 New Air Regulator with Gauge. Assures accurately controlled air—prevents erratic operation and damage to equipment. Design permits inlet pressures of 250 PSI—adjustments up to 125 PSI. Excess air pressure "bleeds off" within regulator, instantly.

3 Automatic Airline Lubricator. Compensating ball valve design gives uniform mixture regardless of air pressure and volume. Oil and air mixture proportionately constant. Reservoir easily filled at any time during operation. Nine-ounce capacity.

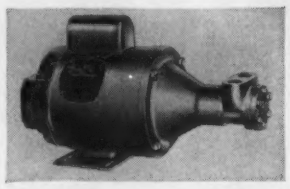
Ideal for air tools, air cylinders, air motors, and many other types of air-operated equipment!

Write for catalog today!

Symbol of SW Excellence
ALEMITE DIVISION
STEWART-WARNER CORPORATION
1850 Diversey Parkway, Chicago 14, Illinois

▲ For more details circle **NED-503 B** on enclosed inquiry slip ▲

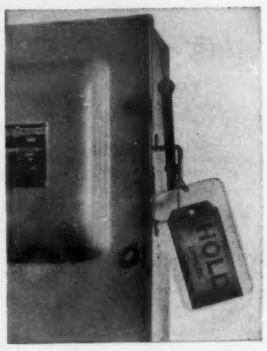
MOTOR-MOUNTED PUMPS in 2/3 to 3½-gpm deliveries



Pressure lubrication, filtration, circulation, and transferring of liquids up to 750 Ssu are applications for line of 656 compact, motor-mounted pumps. Units are made in 2/3, 1½, and 3½ gpm sizes in steel fitted, bronze fitted, or all bronze construction. They are available with ¼, ⅓, or ½-hp single-phase, 1750-rpm motors, in open or explosionproof styles. Pumps operate on the gear-within-a-gear principle which has only two moving parts. • **Viking Pump Co.**, Fourth & State Streets, Cedar Falls, Iowa.

▲ For more details circle **NED-504 B** on enclosed inquiry slip ▲

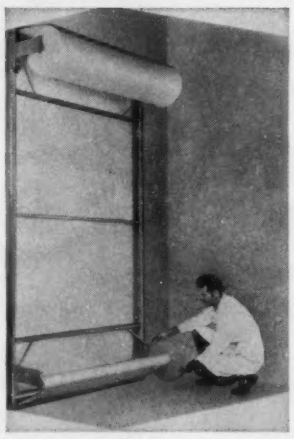
PLASTIC TAG PROTECTORS three sizes handle most needs



Paper safety, warning, or instruction tags can be hung on outside transformers, terminals, disconnects, switches, and other electrical or mechanical equipment when held in these plastic tag protectors. The tags remain legible and clean. Protectors are offered in 5 x 3, 3⅜ x 6¼, and 4 x 7½ in. sizes, with or without bead chains. • **Bedford Products, Inc.**, Box 36, Roanoke, Va.

▲ For more details circle **NED-505 B** on enclosed inquiry slip ▲

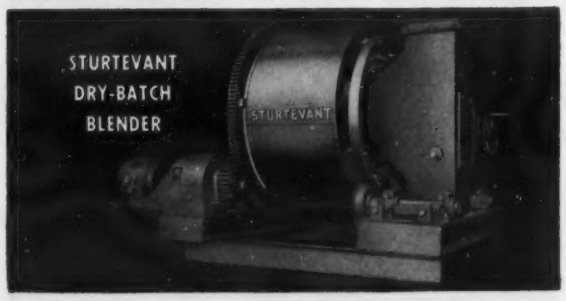
AIR FILTER clean area quickly rolled into place



Offered in kit form, this manual Roll-Kleen air filter for heating, ventilating, and other installations can be quickly assembled at the job site. Units are made in heights from 5 to 15 ft in increments of 4 in. and carry media rolls 70 ft long in widths of 3, 4, or 5 ft. Filter is designed to operate in a pressure differential range from 0.3 to 0.6 in. water gage and air velocities from 350 to 500 fpm. Clean media area is quickly rolled downward into place by means of manual wheel. Roll of dirty used media is disposed of easily. • **Farr Co.**, Box 90187, Airport Station, Los Angeles 45, Calif.

▲ For more details circle **NED-506 B** on enclosed inquiry slip ▲

BLENDING COSTS cut 2 ways!



1. PRODUCTION SPEEDED UP BY 4-WAY MIXING
2. SHUT-DOWNS SHORTENED BY "OPEN-DOOR" DESIGN

Batches from 500 to 40,000 pounds are completely blended regardless of varying weights, densities or fineness of different ingredients. No dust loss!

Four different vertical and lateral mixing actions do the job in minimum time. Single lever control of single gate speeds loading and discharging.

"Open-Door" accessibility for quick, easy cleaning and maintenance *plus* 75-year-tested rugged construction add up to more output per machine-year.

Write for Bulletins on Sturtevant Batch Blenders and other custom-built equipment listed below. STURTEVANT MILL CO., 114 CLAYTON ST., BOSTON 22, MASS.

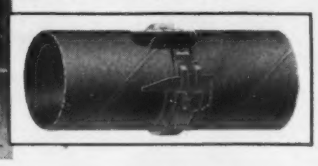
STURTEVANT
Dry Processing Equipment
The "OPEN-DOOR" to *lower* operating costs over *more* years
CRUSHERS • GRINDERS • MICRON-GRINDERS • SEPARATORS
BLENDERS • GRANULATORS • CONVEYORS • ELEVATORS

▲ For more details circle **NED-507 B** on enclosed inquiry slip ▲

NAYLOR... The Economical Steel Pipe

Pipe sizes from 4" to 30" in diameter in a wide range of wall thickness. NAYLOR Spiralweld steel pipe . . . easy to handle and install with built-in strength and safety. Suitable for most industrial applications.

For connecting NAYLOR pipe, all types of flanges and mechanical couplings are available in addition to the NAYLOR Wedgelock coupling illustrated. This positive coupling anchors securely to pipe ends. A hammer is the only tool required to connect or disconnect it.



Write for Bulletin No. 59 for data on pipe, fittings and connections.

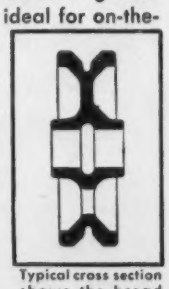
NAYLOR PIPE *Company*
1247 E. 92nd St., Chicago 19, Illinois
Eastern U.S. and Foreign Sales Office:
60 East 42nd Street, New York 17, N. Y.

▲ For more details circle **NED-508 B** on enclosed inquiry slip ▲

Off-the-floor angle iron caster operation is clean, practical and inexpensive.

• Albion heavy duty V-groove casters offer greater utilization of floor space—easier, safer, more economical handling of heavy loads, protect flooring and speed production line operations.

Designed for use on inverted angle track—for *any* service requiring complete control of the truck or conveyor unit, Albion V-groove *self-cleaning* casters are also ideal for on-the-floor operation. And . . . only Albion offers a *complete* range of wheel sizes from 4", 5", 6", 8" and 10" diameters in full swivel or rigid models with a choice of wheel bearing types, capacities from 500 to 15,000 pounds and special features to suit your needs. Remember . . . specify Albion casters and wheels for guaranteed quality and economy.



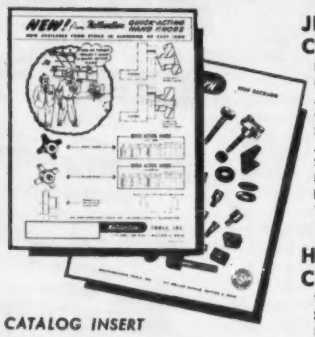
Typical cross section shows the broad V-groove and load equalizing relief groove.

Contact your nearest Albion representative or write direct

ALBION INDUSTRIES, INC.
ALBION, MICHIGAN

▲ For more details circle **NED-509 B** on enclosed inquiry slip ▲

QUICK-ACTING HAND KNOBS



JIG AND FIXTURE COMPONENTS
LATCH BOLTS
CAST IRON HAND KNOBS
ALUMINUM HAND KNOBS
QUARTER TURN SCREWS
SHOULDER SCREWS
JIG FEET (3 TYPES)
SPHERICAL WASHERS
FIXTURE KEYS
KNURLED HEAD SCREWS
TOGGLE SHOE CLAMPS & V-PADS

HOLD DOWN AND CLAMPING TOOLS
T-NUT & STUD SETS
STEP BLOCK & CLAMP SETS
FLANGED NUTS
CUT THREAD STUDS
TEE NUTS
COUPLING NUTS
ADJUSTABLE STEP BLOCKS
STRAP CLAMPS (PLAIN & STEP TYPE)

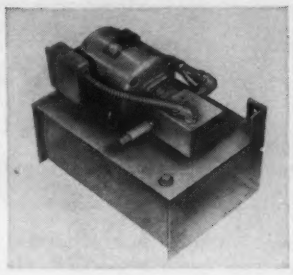
CATALOG INSERT
NEW 16 PAGE CATALOG
CATALOG INCLUDES TRACING TEMPLATES

FREE! WRITE TODAY

Northwestern
127 HOLLIER AVE., DAYTON 3, OHIO

For more details circle NED-510 B on enclosed inquiry slip

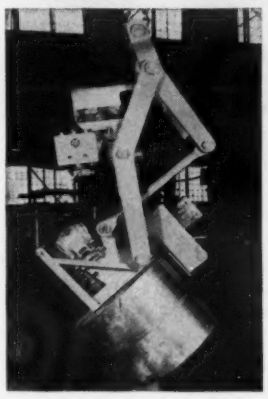
HYDRAULIC POWER UNIT
provides 1½ gpm at 2000 psi



Packaged Auto-Power hydraulic unit is adaptable for press duty, machine feeds, lift tables, pushers and punchers, or for any intermittent duty application. The compact unit provides 1½ gpm output at 2000 psi. Its gear pump is directly coupled to an electric motor producing up to 3 hp. Adjustable relief valves, ball check valves, and removable screen suction filters mounted on a 4½-gal oil reservoir are built in. Solenoid-controlled one-way return valve with built-in pressure compensated flow control is optional. • **Autoquip Corp.**, 1140 S. Washtenaw Ave., Chicago 12, Ill.

For more details circle NED-513 B on enclosed inquiry slip

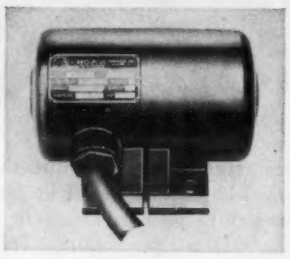
COIL LIFTER & TILTER
handles 5000 to 30,000-lb coils



Operated either from a crane cab or from pendant controls, this coil handling mechanism lifts and power-tilts from vertical to horizontal or vice versa in 45 sec. It is designed for mill and warehouse handling of 5000 to 30,000-lb steel, aluminum, and brass coils. Separate electric motors power the holding mechanism through a gear reducer and the turning mechanism through a work gear screw jack. Self-gripping shoes prevent load from slipping or dropping during handling. • **American Forge & Mfg. Co.**, McKees Rocks, Pa.

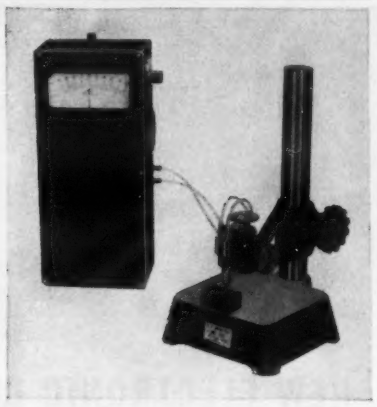
For more details circle NED-514 B on enclosed inquiry slip

VIBRATOR
25-lb unit delivers 275-lb impact



Bins, hoppers, screens, and chutes as well as vibrating tables and prestressed concrete casting equipment are applications for the TopDog ER-100 vibrator. An impact of 275 lb is delivered at a low noise level by the 25-lb unit. It is furnished for fixed or portable mounting for operation on 110 to 550-v one, two, or three-phase ac. Higher impact rating units are also available. • **Vibro-Plus Products, Inc.**, Stanhope, N. J.

For more details circle NED-515 B on enclosed inquiry slip



MODEL AG5 ACCU-FLOW AIR GAUGE
A general-purpose non-contact gauge for use as measurer or comparator on a variety of critical applications.

A new standard of accuracy . . .

ACCU-FLOW* by AMES

B. C. Ames has perfected a new concept of air gauging that offers extremely fine measurement and unusual stability.

AMES ACCU-FLOW air gauges give you an accurate non-contact measuring method that is ideally suited to checking size variations on continuous production items such as wire, rubber, plastics, etc. Send for free ACCU-FLOW folder.

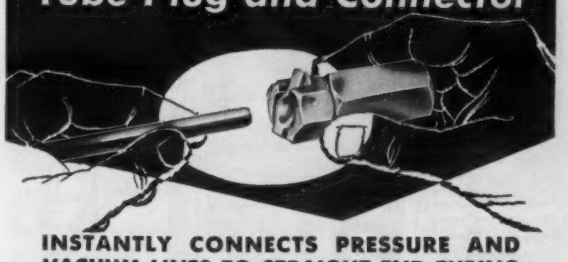
*Trademark of B. C. Ames Co.

Representatives in Principal Cities

B.C. AMES CO.
34 Ames Street, Waltham 54, Mass.
Canadian Representative—H. C. Burton Co. Ltd., Hamilton
MANUFACTURERS OF MICROMETER DIAL INDICATORS AND GAUGES

For more details circle NED-511 B on enclosed inquiry slip

New "PushOn-PullOff" Tube Plug and Connector



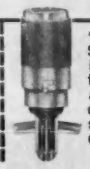
INSTANTLY CONNECTS PRESSURE AND VACUUM LINES TO STRAIGHT END TUBING

for AIR, WATER, STEAM, FREON, ETC.

Simply push the Connector over end of tubing and press to "stop" position. This AUTOMATICALLY locks tubing into place for a leak-proof seal. To unlock, press button and pull Connector off. For any pressure to 1000 psi; vacuum up to 25 microns. Rugged, simple, fool-proof, it saves time and labor. One end tapped for inlet connection. Stock sizes for 1/4" to 1" OD tubing. Other sizes to order. Write for Calalog and prices.

"Quick-Seal" Self Sealing Test Plug. Uses test pressure to insure leak-proof seal. Capacities to 500 psi.

Expanding Seal Test Plugs and Filling Connectors.



"Quick-Seal" Self Sealing Filling Connector — adapts and seals air or liquid pressure lines to openings.

mechanical mp products
MECHANICAL PRODUCTS CORPORATION
1724 WEST HUBBARD STREET, CHICAGO 22, ILLINOIS

For more details circle NED-516 B on enclosed inquiry slip

The SL2 snap-lock·Newest NAMCO
Machine Life Limit Switch

Snap-Lock Limit Switches, developed by National Acme to meet their own rigid specifications, have become industry's standard for reliable "machine life" service. Latest and most advanced in the complete line is the SL2. Built with typical machine tool precision and ruggedness, it will give millions of consistently fast, accurate contacts.

Closely Check These Outstanding Features

1. Infinite Operating Flexibility . . . One simple interchangeable cam controls contact sequence . . . performance can be tailored to the specific needs of each application.

2. Ample Overtravel and By-pass . . . Sixty-five degree overtravel . . . 90° by-pass . . . 180° arc.

3. Clockwise or counterclockwise motion . . . Converting from clockwise to counterclockwise motion takes but a few seconds . . . no tools required.

4. Light operating pressure . . . Tripping action is 50% less than previous models. Overtravel action requires only 8 pounds at 1½ inch radius.

5. Shock-proof Mechanism . . . Positive mechanical lock . . . prevents accidental movement due to shock or other external causes.

6. Faster Contact Action . . . Make and break speed up to 50% faster than predecessors . . . assures foolproof operating and wards off destructive arcing.

7. Greater Contact Pressure . . . Contact bounce minimized by use of new contact material that permits four times greater contact pressure.

Write for Bulletin EM-SL60 containing complete detailed information

National Acme
THE NATIONAL ACME COMPANY
182 E. 131st STREET
CLEVELAND 8, OHIO

Sales Offices: Newark 2, N.J.; Chicago 6, Ill.; Detroit 27, Mich.

For more details circle NED-517 B on enclosed inquiry slip

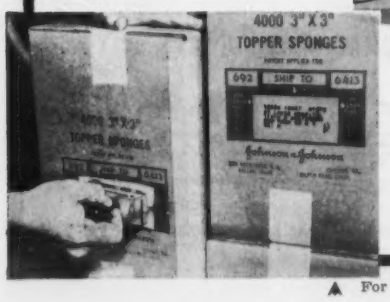
At JOHNSON & JOHNSON's mammoth shipping center, North Brunswick, N. J.

Addressing stencil is cut in same typing with bill of lading and other forms.

MULTISTAMP® Stencil Addressing System
STOPS Freight Addressing Errors!

IT'S FAST! IT'S ECONOMICAL! IT'S ACCURATE!

Stencil snaps on duplicator, held firmly in place by tough backing board frame.



Shipping address errors are virtually eliminated when printed directly on cartons by the Multistamp Stencil Duplicator. Print becomes identical smear-proof permanent part of every carton in shipment. Cartons are addressed **accurately** as orders are assembled on dollies en route to transportation. Averages 3 1/3 sec. per carton . . a one man—one hand—operation.

Quantity users now save big money on VOLUME-PAK stencils . . . either plain or FORM-CUT. One day service on repeat FORM-CUT stencil orders . . . less than 10 days of new orders.

MULTISTAMP® STENCIL DUPLICATOR
THE MULTISTAMP CO. NORFOLK, VA.

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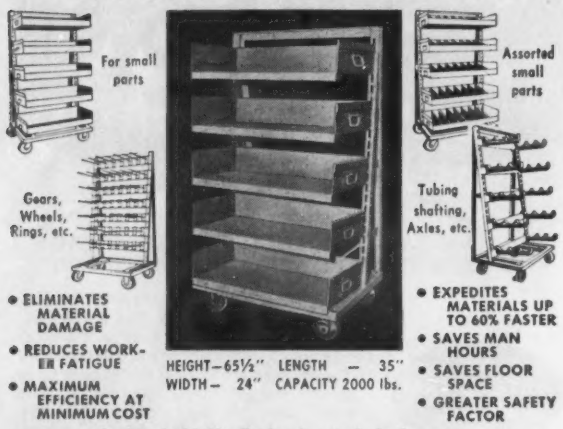
THE VER-T-RACK

THE ACME OF VERSATILITY



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- REDUCES WORKER FATIGUE
- MAXIMUM EFFICIENCY AT MINIMUM COST
- EXPEDITES MATERIALS UP TO 60% FASTER
- SAVES MAN HOURS
- SAVES FLOOR SPACE
- GREATER SAFETY FACTOR

HEIGHT—65½" LENGTH — 35"
WIDTH— 24" CAPACITY 2000 lbs.

Equipped with 6" roller bearing steel wheel casters

VER-T-RACK can be handled with lift truck.
Trays are adjustable on VER-T-RACK

PRICE — $49.50 Varied Accessories Extra

Slightly higher west of the Rockies Write today for descriptive literature

THE Vince BASNIK COMPANY
MATERIAL HANDLING DIVISION
• 2020 CENTER STREET • CLEVELAND 13, OHIO

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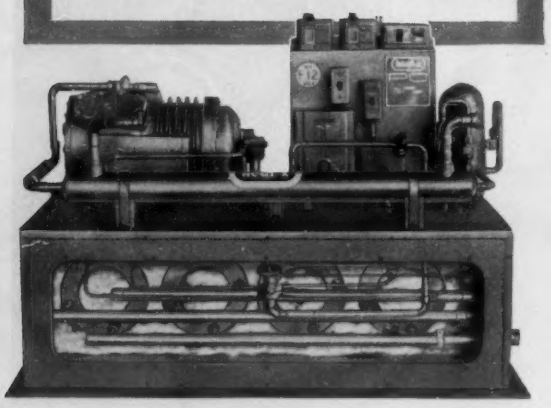
heat-x

READY-TO-GO CAST COOLER PACKAGE UNITS



for cooling process water—other low viscosity liquids

Where large volume of water at low temperature is required, Heat-X "CCP" Cast Cooler Package Units provide a dependable and economical supply. "CCP'S" are widely used in the food processing industry, in bakeries, bottling plants, etc.

"CCP" units are ready to "plug-in" . . . are factory tested before shipment, charged with refrigerant. Capacities from 1/3 to 10 H.P. Stainless steel circuits for cooling Freons, cooling kerosene, light oils or slightly corrosive liquids. Individual cast aluminum coolers provide rugged strength for protection against freeze-up damage. High hold-over capacity.

Heat-X manufactures a complete line of Package Chillers for air conditioning systems, drinking water or beverage cooling applications and industrial water cooling.

Send For Bulletin 8024

DUNHAM-BUSH

HEAT-X, Inc.

SUBSIDIARY OF DUNHAM-BUSH, INC.
BREWSTER, NEW YORK

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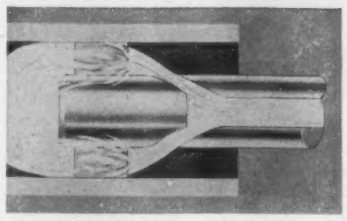
LIQUID-COOLED TOOL HOLDERS for boring and reaming cutters



Built-in veins in Polar Bars for adjustable boring and reaming cutters deliver streams of coolant directly to each of the cutting edges. Chips are thus flushed away and heat build-up is prevented. Tool life is also extended at high cutting speeds. They have straight or Morse taper shanks in a range of sizes for all Muskegon or similar boring cutters and reamer blades. • **Muskegon Tool Industries, Inc.**, 11th & Western Streets, Muskegon, Mich.

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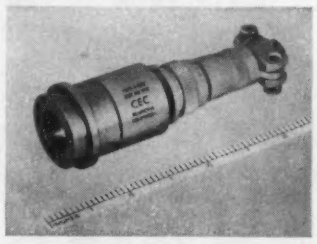
PRESSURE TRANSDUCER for pressures up to 5000 psi



This flush mounted Type 4-237 pressure transducer will readily measure high-frequency transient phenomena. Obtainable in pressure ranges of 0-100 to 5000 psi gage and absolute, it withstands severe environmental conditions, even those encountered in missile and nuclear work. Provision is made for adjustment of bridge balance, temperature compensation, and sensitivity external to the unbonded strain gage sensing element. • **Consolidated Electrodynamics Corp.**, Transducer Div., 360 Sierra Madre Villa, Pasadena, Calif.

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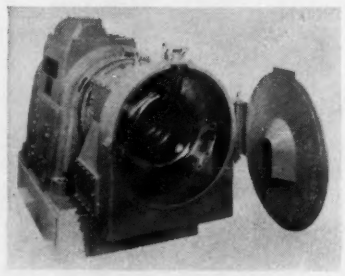
CENTRIFUGAL SEPARATOR processes up to 50 tons per hour



Washing efficiency, thorough cake washing, and increased cake dryness are obtained with this multistage push-type centrifugal separator, made under Swiss license. It will even handle slow draining materials ranging from minerals to pharmaceuticals with particle sizes as small as 50 microns on a continuous basis. Capacities range from a few hundred pounds to 50 tons per hour. Telescoping baskets serve as pushers between stages. Minimum of wash liquor is needed, and power consumption is relatively low. • **Baker Perkins Inc.**, Chemical Machinery Div., 1000 Hess St., Saginaw, Mich.

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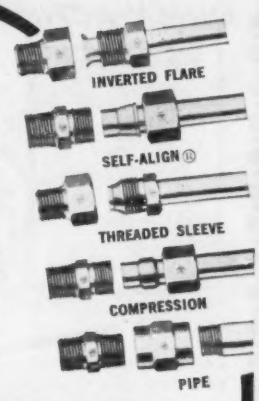
WEATHERHEAD brass FITTINGS



• Only Weatherhead brass fittings are made from extruded bar stock—they're strong, durable, lightweight. Precision machined for exact fit; large wrench pads for easy assembly. Available in sizes from ⅛" for use on copper, aluminum, steel and plastic tubing. Weatherhead brass fittings are approved by U.L., A.G.A., A.S.M.E. and S.A.E. We offer complete selection of sizes and types for every tubing application.

YOUR SINGLE-SOURCE SUPPLIER OF ALL FITTINGS & INDUSTRIAL HOSE NEEDS

THE WEATHERHEAD COMPANY
FORT WAYNE DIVISION
Dept. NED-2, 128 W. Washington Blvd.
Fort Wayne, Indiana

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NEW ELECTRONIC COUNTER

Designed for High Speed and Accuracy AT LOW COST

Veeder-Root's new Series 1697 Count/Pak is an economical device for high velocity, non-contact counting in a variety of production and packaging operations.

Features include a transistorized circuit with photoelectric sensing system; speed up to 2500 counts per minute with absolute accuracy; rugged and reliable construction; exclusive Veeder-Root instant reset, high speed electric counter for dependability, long life.

Send for complete details. This new Count/Pak is ideal for *Count*rol of packaging, bottling, food processing, materials handling, conveyor lines, paper, plastic, and pharmaceuticals — to name but a few.

VRO-1

Veeder-Root
HARTFORD 2, CONNECTICUT
"The Name that Counts"

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What? Feed all these different sized cases, in random order, into one automatic case sealing installation?

Yes! The new Packomatic OMNIMATIC-ROTO-PRESS automatically seals and discharges corrugated shipping containers of widely varying dimensions, fed to it in random order, at speeds up to 20 cases per minute — automatically selecting and discharging cases according to height to as many as five different take-away conveyors. And the entire installation* occupies only 144.9 square feet.

*At General Electric's Trumbull Lamp Plant at Warren, Ohio — See *Modern Packaging's* in plant story, Nov. 1959 issue.

WRITE FOR 8-PAGE OMNIMATIC-ROTOPRESS BROCHURE #100-60

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The OFFICE VALET

Answer the Wraps Problem in Offices and Waiting Room

These efficient VALET Racks keep wraps off waiting room chairs, aired, dry and in press. Hold coats spaced apart, hats, umbrellas and overshoes. Accommodate 3 persons per running foot. Come in lengths of 3 ft 3 in. or longer by the foot. The S-6 Office Valet costumer accommodates 6 people—ends piling of garments on others. Will not tip over. Built for lifetime service of heavy gauge, welded furniture steel. Smart in modern baked enamel finishes. Units form a complete system of wardrobe equipment that provides efficient wrap accommodation wherever people gather.

Write for Bulletin OV-8

VOGEL-PETERSON CO.

Rt. 83 & Madison St., Elmhurst, Illinois

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PLASTIC PIPE
four types in 10 and 20-ft lengths

Added to K & M line of asbestos-cement pipe are four types of plastic pipe for use in utilities, water and sewer, petro-chemical, industrial, irrigation, and other installations. Types offered are ABS (Acrylonitrile Butadiene Styrene), normal-impact PVC, polyethylene, and high-impact styrene-alloy sewer pipe. Available in 10 and 20-ft lengths, pipe affords a permanently smooth bore. It cuts cleanly with a handsaw, and sections are joined with a solvent weld. • Keasbey & Mattison Co., Butler Avenue, Ambler, Pa.

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DRUM HANDLING TRUCK
carries 30 and 55-gal sizes safely

Transporting of 30 and 55-gal metal drums is a simple matter with this load balancing drum truck. New loading toe design assures quick, safe pick-up. Built-in spring action keeps the cast steel chime hook at desired height. Curved handles plus plastic grips give safe, comfortable control. Rubber-tired aluminum or optional neoprene wheels roll easily on ball bearings. • Economy Engineering Co., 4511 W. Lake St., Chicago 24, Ill.

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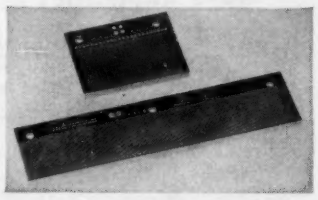
POSITIONING DATA ELEMENTS
all-metal linear and rotary types



Inductosyn data elements, formerly mounted on glass, are all-metal types in rotor and stator, and linear and slider configurations. They are used for machine tool, missile, navigation, and fire control systems for both linear and angular positioning. Units provide simple means for direct measurement and control of mechanical movements to linear accuracies of 40 microinches and to 1 second of arc in angle. Conductor patterns of scales and sliders are 0.002-in. thick copper secured to base metal by an insulating bond layer. Base is of any metal matching that of machine on which the Inductosyn is mounted. • Farrand Controls, Inc., 4401 Bronx Blvd., New York 70, N. Y.

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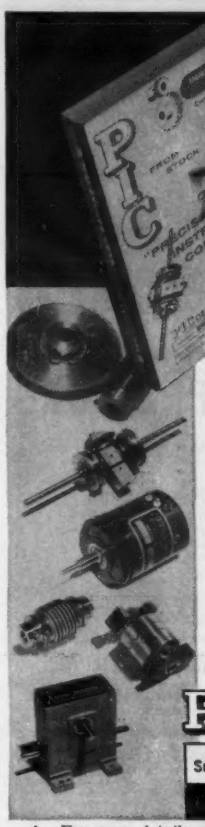

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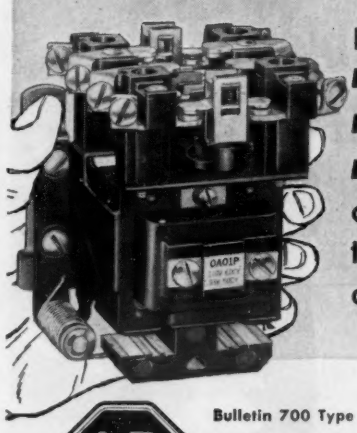
New . . . Improved Allen-Bradley CONTROL RELAYS



provide **many more millions** of trouble free operations

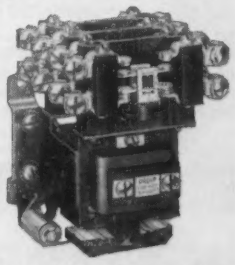
Bulletin 700 Type B General Purpose Relay

A-B QUALITY

Allen-Bradley control relays have set the standard of performance for years. Now, with the improvements incorporated in these new A-B Bulletin 700 relays, you can count on even greater performance. The new structural design increases mechanical life *at least 5 times*. And a new contact motion provides *10 times greater electrical reliability*. As with *all* A-B control, these new relays have maintenance free, double break, silver contacts. The new cast-plastic coil is impervious to atmospheric conditions. Mounting hole dimensions remain the same. These new Allen-Bradley Bulletin 700 Type B relays mean greater value for you at the *old price*—a bargain! Send for full details, today.

BULLETIN 700 TYPE BX UNIVERSAL RELAY

Made with up to four poles, each having N.O. and N.C. contacts. Additional contacts on six and eight pole units are N.O. only.



Allen-Bradley Co., 1334 S. Second St., Milwaukee 4, Wis.
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Quality Motor Control

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DAY DUST CONTROL NEWS

Free! **9 informative dust control equipment bulletins**

BULLETIN G-579 — Describes the DAY Type "RJ" filter. An all purpose, versatile unit. Bulletin gives operating features, dimensions and specifications.
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EQUIPMENT ONLY OR A COMPLETE SYSTEM

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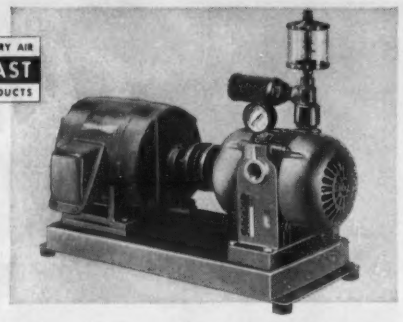

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At right — Model 2065 with base, motor, etc.

6 SIZES: 4 to 45 c.f.m. ½ to 5 h.p. Up to 30 p.s.i.g.

For dependable, heavy-duty service get GAST ROTARY AIR COMPRESSORS

For round-the-clock, heavy-duty service at pressures to 30 p.s.i.g., these models offer O.E.M. and plant users:

1. Forced-air dual fan cooling . . . wide cooling fins.
2. Automatic lubrication with visible oil supply.
3. Simple, trouble-free 4-vane rotary design.
4. Vanes take up their own wear automatically for years of "like new" efficiency and performance.
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6. Compact . . . no bulky air tank is needed.
7. Direct or V-belt drive. Available with base, motor.

WRITE TODAY FOR COMPRESSOR BULLETIN P-HD.

Gast Manufacturing Corp., P. O. Box 117-R, Benton Harbor, Mich.

GAST ROTARY "Air may be your answer!" • AIR MOTORS TO 7 H.P. • COMPRESSORS TO 30 P.S.I. • VACUUM PUMPS TO 28 IN.

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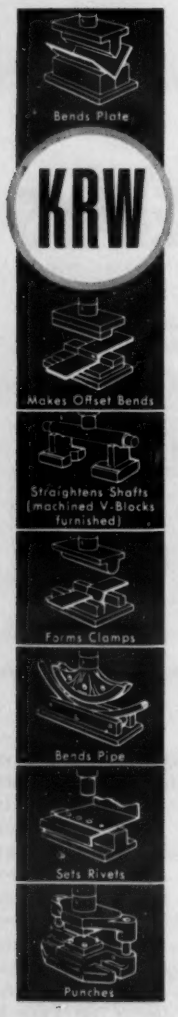
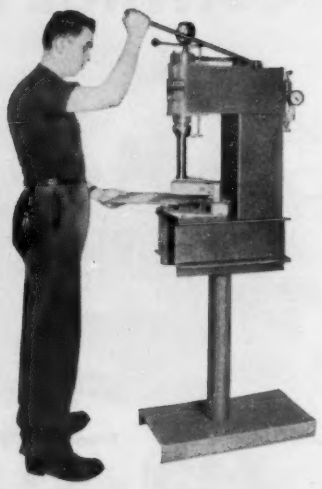


NEW! KRW 10-TON HYDRAULIC PRESS



PRICE (without floor stand) $352.00 f.o.b. Arcade, N.Y.

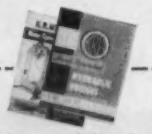
Floor Stand ..... $72.00 f.o.b. Arcade, N.Y.

A LOW-COST FAST-ACTING "JACK-OF-ALL-JOBS"

Mighty Mite That's Mighty Useful: This KRW 10-ton Bench Arbor Air-Oil Hydraulic Press does an almost limitless number of jobs that need a "squeeze" (up to 10 tons). In many cases, dies can be readily improvised from scrap steel.

And Mighty Speedy, Too! Just push the hand lever up . . . *Pff-ft!* Air actuated, the ram comes down to meet the work in a fraction of a second. Then pull the lever down to apply hydraulic pressure to the work. The job is done in a jiffy. Flip the pressure release knob at the front of the machine and the ram is spring-returned to top position. *You're ready to go again!* This new press can be hand operated at more than 20 strokes per minute. To put it in operation, all that's needed is a shop air supply of 50 psi.

Want More Facts? Mail the coupon below for detailed information on this machine as well as other KRW hydraulic shop presses (motor driven and hand operated, 25 through 150-tons).



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1228 MAIL STREET, ARCADE, N. Y.
MAIL illustrated bulletins on KRW Motor-Driven and Hand-Operated Shop Presses to us, without obligation.

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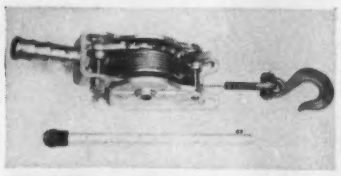
CAST ALUMINUM WINCH capacity is 1000 lb



The 7½-lb, ratchet handle Cadillac base winch is equipped with stainless steel shafts and springs, porous bronze bushings, and choice of nylon, preformed galvanized aircraft, or stainless steel cable. Its frame and parts are Tenzaloy aluminum castings. Drum capacity is 40 ft of 5/32-in. diameter, 2900-lb breaking strength cable, or 20 ft of 3/16-in., 4200-lb strength cable. Load is positively controlled during lifting and lowering. Mounting is in any position. Price with aircraft cable and removable clevis slip hook is $24.95. Winch only is $19.95. • **Aluminum Products, Inc.,** Box 1462, Ft. Lauderdale, Fla.

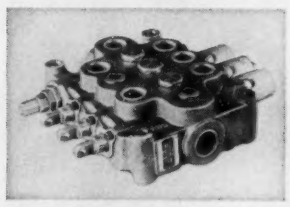
▲ For more details circle **NED-537 B** on enclosed inquiry slip ▲

PIGSKIN SAFETY SHOES oxford is lightweight, scuffproof

More than a pound lighter than conventional safety oxfords, Sportlite pigskin safety shoes combine steel toe protection with casual sport shoe styling. They meet ASA specifications for protection against falling loads. Water, stain, acid, and alkali resistant, they can be cleaned by light wire brushing or they can be washed. Other features include ventilation for comfort, oil resistant neoprene crepe sole, and Caviar Gray or Beaver Brown colors. • **Haus of Krause,** Safety Shoe Div., Rockford, Mich.

▲ For more details circle **NED-538 B** on enclosed inquiry slip ▲

HYDRAULIC VALVES have capacities up to 23 gpm



Up to four control positions are designed into the 3 x 5⅞ x 6⅞-in. body of space - saving Series 3300-SP hydraulic valves. They handle 3 to 23 gpm and control from one to six single or double-acting cylinders, permitting up to four positions of control. Valves are available in conventional or parallel circuits, are check valve controlled, and have seal plates for easy plunger seal replacement. A pilot-operated relief valve is built in. The valves are built with ⅜, ½, and ¾-in. inlet and outlet and have a 22 fps maximum flow. • **Hydraulic Unit Specialties Co.,** Waukesha, Wis.

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"Who's best for **ON TIME** deliveries of short run stampings?"

FEDERAL

SHORT RUN STAMPINGS — 3 PLANTS To Serve You Better

Freddy Federal says: "Fast production and on time stamping deliveries are our specialty. Every job is speedily handled, whether a limited prototype . . . a small pilot run . . . or 10,000 or more pieces. You receive all the benefits of streamlined tooling and work flow methods in our modern one-stop plants . . . plus skilled and experienced craftsmen who are personally interested in meeting your stamping requirements. Send us your part or print today for a prompt, money-saving quotation. Time real short? Just ask for a reply by wire or phone! It's another Federal service to give you stamping deliveries on time!"

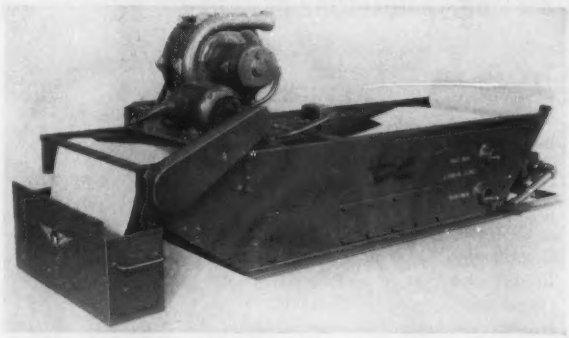
Write for illustrated catalog No. 301 with its many stamping design tips!

FEDERAL TOOL & MFG. CO. 3618 Alabama Avenue Minneapolis 16, Minn.
FEDERAL SHORT RUN STAMPING, INC. 918 Lyell Avenue Rochester 6, New York
FEDERAL STAMPING CO. 7318 Atoll Avenue No. Hollywood, California

▲ For more details circle **NED-540 B** on enclosed inquiry slip ▲

HOW NEW VACU-MATIC FILTERS FOR MACHINE TOOLS HELP YOU INCREASE PRODUCTION AND CUT COSTS

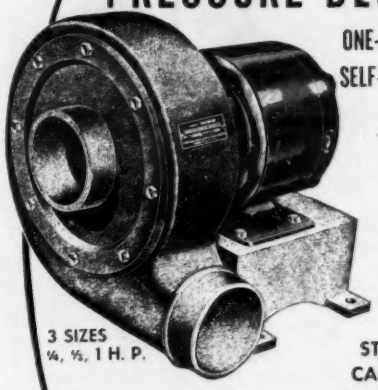
Employing a new vacuum method, the compact, revolutionary Hoffman Vacu-Matic Filter provides unusually high



flow rates in continuous filtration of machine tool water soluble coolants. Filter medium is an easily replenished paper on which solid particles are deposited. Coolant is drawn through the filtering paper by negative pressure with the dry sludge remaining on top of the paper. When sludge reaches a pre-set thickness, the filter paper is automatically indexed by a pressure differential switch and new paper moved over the vacuum area. Water-free sludge and filter paper drop off into the removable tote box for easy disposal. *Coolant loss is minimized . . . rejects reduced . . . down time eliminated . . . bacterial growth curtailed . . . production schedules maintained.* Ask for bulletin FB-103 — **U. S. Hoffman Machinery Corp., Thompson Road Plant #1, Syracuse, N. Y.**

▲ For more details circle **NED-541 B** on enclosed inquiry slip ▲

Sutton NEW IMPROVED MOTOR DRIVEN PRESSURE BLOWER



ONE-PIECE HOUSING
SELF-CLEANING WHEEL

For EXHAUSTING Dust . . Smoke Fumes . . Vapor
COOLING
DRYING
CONVEYING Cotton . . Wool Shavings
FORGE BLASTING

3 SIZES ¼, ½, 1 H. P.

STRONG . . LIGHT CAST ALUMINUM

Even, non-pulsating air flow . . 100-800 cu. ft. per min. at ½" to 6" static pressure. Straight wall construction cuts windage . . ups efficiency. 3450 r.p.m. direct connected 60-cycle motor . . open or totally enclosed. Set discharge in 8 different positions.

WRITE FOR DESCRIPTIVE LITERATURE

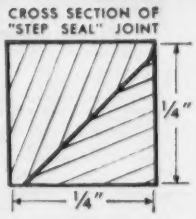
Sutton Manufacturing Corp.
112 W. WILSON AVENUE
NORFOLK, VIRGINIA

▲ For more details circle **NED-542 B** on enclosed inquiry slip ▲

PISTON LEAKAGE PROBLEMS ??? CHANGE TO "STEP SEAL RINGS"

See the newest revolution in sealing rings by AUTO-DIESEL PISTON RING CO. The "STEP SEAL RING" has a sealing action over the entire area. This results in a ring that allows only ⅙ the leakage under 15 times the pressure of a straight cut ring—see comparison table below.

CROSS SECTION OF "STEP SEAL" JOINT



COMPARISON TABLE

STRAIGHT CUT COMPRESSION RING	"STEP SEAL RING"
With .005" end clearance has leakage rate of 150cc/min. at 400 lbs. pressure.	With .010"-.020" end .030 has a leakage rate of only 25cc/min. at 6000 lbs. pressure.

To reduce leakage to a minimum specify "STEP SEAL RING"

For complete details write for Bulletin H-57

THE AUTO-DIESEL PISTON RING CO.
3141 Superior Avenue • Cleveland 14, Ohio

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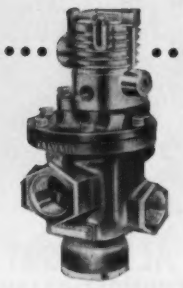
split-second response . . . more work per hour . . .

with VALVAIR® HI-SPEED INLINE VALVES



HI-SPEED INLINE with integral pilot, 2 or 3-way, N.O. or N.C., 3/8 to 1 1/4 in. NPT.

- solenoid coil guaranteed against burn-out for life of valve
- instant-action control • air-cushioned poppet
- multi-million cycle dependability • JIC pilot

Short poppet travel in Valvair's HI-SPEED INLINE provides maximum flow almost instantaneously. This shortens machine cycle time . . . lessens brake and clutch slip . . . provides more accurate cuts on high speed cut-offs . . . decreases set-up time . . . minimizes drift, for safer operation.

For increased production . . . lower costs . . . greater safety . . . specify Valvair HI-SPEED INLINE valves.

Write for free Bulletin D-58, Address: Valvair Corp., Akron 11, Ohio, Dept. NED 260

Valvair AKRON 11, OHIO

DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)

Other INDUSTRIAL DIVISIONS of IBEC: The Sinclair-Collins Valve Co. The Bellows Co., Akron, Ohio • V. D. Anderson Co., Cleveland, Ohio.

8006

▲ For more details circle NED-544 B on enclosed inquiry slip ▲

PLATECOIL®

For new savings on more types of tank and process heating and cooling applications than ever before

REPLACE PIPE-COILS WITH PLATECOIL AND SAVE

Send for free BULLETIN P57 for more information.

PLATECOIL® DIVISION

TRANTER MANUFACTURING, inc.
LANSING 9, MICHIGAN

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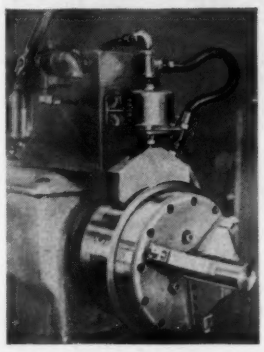
180-AMP WELDER uses electrodes up to 3/16 in.

Mild and low alloy steels, and Type 18-8 stainless steel can be welded by this 180-amp stable-arc welder. Dial control provides easy setting of output over a wide range. Electrodes up to 3/16-in. are used to weld materials from 20-gage to 1/2-in. or thicker plate. Welder operates on 220 v, single-phase lines and is light in weight for movement to the job. Price of $145 includes cables, head shield, electrode holder, ground clamp, and input power connections. • Lincoln Electric Co., 22801 St. Clair Ave., Cleveland 17, Ohio.

▲ For more details circle NED-547 B on enclosed inquiry slip ▲

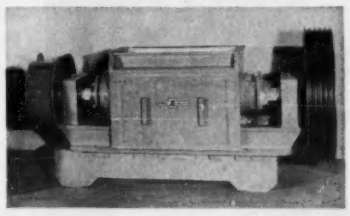
RETRACTABLE AIR COUPLING for through-feed spindle chucks



Retractable air coupling for power chucks with through-feed spindles can be used with either automatically cycled or manually controlled bar feed machines. In operation, air-actuated shoe contacts periphery of chuck adapter plate when air valve is turned on. Chuck always stops with shoe over one of a series of valves in the adapter plate. After part is in chucking position air is turned off and shoe retracts. Present model is usable on horizontal spindles only. • N. A. Woodworth Co., 1300 E. Nine Mile Rd., Detroit 20, Mich.

▲ For more details circle NED-548 B on enclosed inquiry slip ▲

SAW TOOTH CRUSHER withstands 20-ft liquid head



Wide assortment of chemical slurries is handled by this water-tight saw-tooth crusher which is built to withstand a 20-ft liquid head pressure. All parts in contact with liquid are stainless steel, and bearings are outboard. Bank of stainless steel tines used as cleaning combs is mounted on a shaft and protected by a shear pin. Crusher uses a round shaft for extra strength. • Sprout, Waldron & Co., 130 Logan St., Muncy, Pa.

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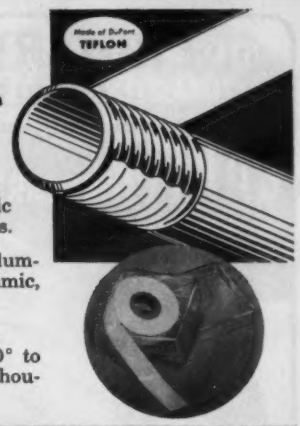
New Sealer THRED-TAPE



SEALS ANYTHING: chemicals, corrosives, hydraulic fluids, Freon 22, aromatic fuels, solvents, toxics, gases.

ALL TYPES OF PIPE: plastic, aluminum, stainless steel, ceramic, synthetic rubber, carbon.

ALL THREADED CONNECTIONS Temperature range −250° to +500°F., pressures to thousands of pounds.

EASY TO USE

Just cut to length and wrap tightly around pipe. Press overlap to secure and make connection in usual fashion. No mess.

Available in 1/2" x 288" rolls, packaged in a protective, clear plastic box.

Request sample and full information.

John Crane CRANE PACKING COMPANY

6411 OAKTON STREET, MORTON GROVE, ILLINOIS (*Chicago Suburb*)
In Canada: Crane Packing Co., Ltd., Hamilton, Ontario

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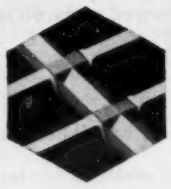
Gary welded steel grating



with the hexagonal cross bars

Greater stability, greater safety, under foot! Proved under all conditions, in millions of square feet of open flooring and stair treads, Gary's hexagonal cross bar design together with square edge strip, assures a more durable, safer grating. Pressure welded construction forms cross bars and main bars into a rugged one-piece grating. Tops of all bars are flush.

Factory-fabricated to your specifications. Whatever your needs in type and size, Gary Grating saves you installation time and money. Rigid quality control assures dimensional stability and neat appearance.

Gary Grating can also be furnished in a variety of stainless steels and also aluminum.

For all your functional and decorative grating and stair tread requirements, specify Gary Grating . . . steel or aluminum. It's designed for lasting satisfaction. Write for free catalog—Dept. B, 4017 E. Seventh Ave., Gary, Indiana.

ROCKWELL R STANDARD

ROCKWELL-STANDARD CORPORATION
GRATING DIVISION, GARY, INDIANA

▲ For more details circle NED-551 B on enclosed inquiry slip ▲

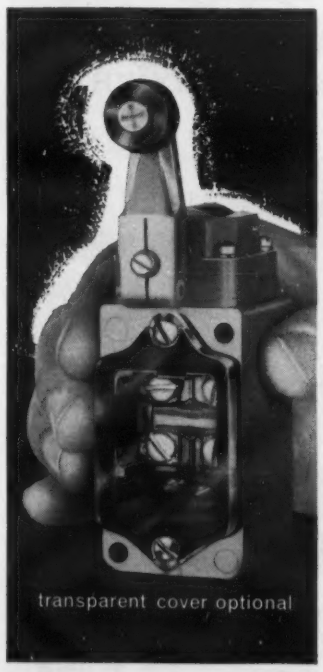
Production's Enemy #1 MEETS ITS MASTER

Cutler-Hammer announces the *first*

- *tolerance compensated*
- *contamination-proof*
- *visible contact*

Extended Life Limit Switch

Exhaustive tests, including total-submersion life tests, prove the new Cutler-Hammer Extended Life Limit Switch installs easier, works better, and lasts longer. But don't take our word for it. Replace your most troublesome limit switch installation with the new C-H Extended Life Limit Switch, and **WE GUARANTEE** it will out-perform, out-last all others. If comparison doesn't prove it, return the switch and your money will be refunded. For complete information, write for Pub. ED143-C251. Cutler-Hammer Inc., Milwaukee, 1, Wis.



tolerance compensation
Each sub-assembly is accurately calibrated so that in final assembly all plus and minus tolerances are balanced or compensated. Tolerance compensation assures precision action, dependable repeat accuracy, and ultra-long life.

contamination-proof
New triple sealing positively checks seepage of all oils, coolants, moisture, and abrasive grit. Total-submersion life tests prove the new C-H Extended Life Limit Switch to be contamination-proof . . . suitable for even dry circuit applications.

visible contacts
This new C-H limit switch provides completely enclosed but *visible* single pole, double throw switch contacts. No chance for wiring errors during installation. Quick, sure, visible inspection of the contacts in operation cuts maintenance time and costs.

CUTLER-HAMMER

Cutler-Hammer Inc., Milwaukee, Wis. • *Division:* Airborne Instruments Laboratory. • *Subsidiary:* Cutler-Hammer International, C. A.
Associates: Canadian Cutler-Hammer, Ltd.; Cutler-Hammer Mexicana, S. A.; Intercontinental Electronics Corporation.

▲ For more details circle NED-546 B on enclosed inquiry slip ▲

SOLVE ROTARY MOTION PROBLEMS

CARTER ROTARY ACTUATOR

- SAFE, LEAKPROOF PERFORMANCE
- BUILT IN CUSHIONS
- OIL, AIR, WATER OR GAS
- Transfer Mechanisms
- Indexing
- Positioning
- Valve Operation
- Cam Actions

SEND FOR NEW BULLETIN RA-500 Complete Details and specifications. All essential design data. Send today!

CARTER CONTROLS, INCORPORATED
2876 Bernice Road, Lansing, Ill.
Phones: Lansing—GRanite 4-3305 • Chicago—BAyport 1-7186

For more details circle NED-552 B on enclosed inquiry slip

B&P MAGNESIUM DOCKBOARDS

—engineered by the builders of the Vanguard Earth Satellite Sphere

COMPARE THESE IMPORTANT FEATURES:

- ✓ Exclusive, rugged forged ends on one-piece curb
- ✓ Full length hand grip for safe handling from any position
- ✓ Yellow lane markings on *all* boards
- ✓ Heat treatment after welding for longer life

Compare *all* the B & P features! Write today for the fact-packed B & P Dockboard folder.

60-MH-5

BROOKS & PERKINS, Inc.
1928 WEST FORT STREET • DETROIT 16, MICHIGAN

AMERICA'S LARGEST MANUFACTURER OF MAGNESIUM ASSEMBLIES

For more details circle NED-553 B on enclosed inquiry slip

accuracy multiplied 20 times!

microflex TIMER

20 TURN DIAL permits accurate, visual settings over full 7200° range for highest precision. Accuracy assured by patented pinion and threaded axle.

NO GUESSING about time settings. 1200 dial markings are spaced to allow easy setting with pinpoint accuracy. Synchronous motor drive provides exact timing according to setting.

CHOICE OF 9 actions available for each of 3 SPST 10 ampere contacts which can be selected according to circuit requirements.

for more details, write for free bulletin 110. Address Dept. NED-260.

EAGLE SIGNAL COMPANY
MOLINE, ILLINOIS
REPRESENTATIVES IN PRINCIPAL CITIES

For more details circle NED-554 B on enclosed inquiry slip

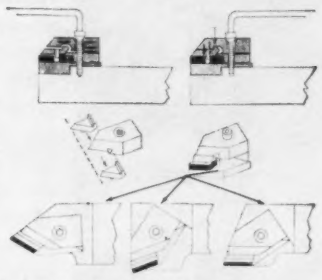
SOLENOID VALVES for pneumatic or hydraulic uses

Over 100 different variations of side-ported and manifolded models are available in Series A four-way solenoid-actuated valves. The 3/16-in. diameter flow area valves have single or double solenoid actuation, and are suited for pneumatic or hydraulic applications in the 40 to 300-psi range. Options include hydraulic adapters, integral junction boxes, manual override, threaded exhaust blocks, built-in speed controls, and various manifold plates. • Versa Products Co., 150 Coolidge Ave., Englewood, N. J.

For more details circle NED-555 B on enclosed inquiry slip

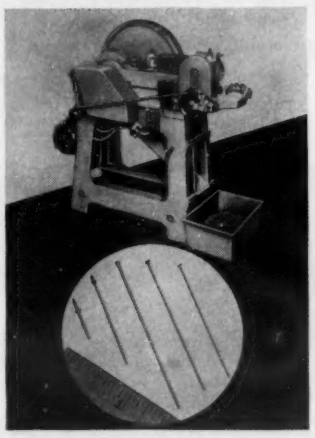
CARBIDE TOOL HOLDER with replaceable chip breaker

Replaceable triangular, square, or diamond carbide tips are located and locked automatically in the Posa-Cut tool holder. New tips, as well as solid carbide chipbreakers, can be inserted without disturbing machine set-up. Chip breakers are changed in much the same way blades are changed in an ejector razor. • Carbide Tool Co., 1306 Harper Ave., Detroit 14, Mich.



For more details circle NED-556 B on enclosed inquiry slip

COLD HEADING MACHINE for long, thin pins and lead wires



From 60 to 100 long and thin pins, lead wires, and similar parts can be formed per minute by the Morris-Omega Special O, a cold heading machine. Pieces are made in lengths up to 2⅜ in. from 0.020 to 0.090-in. diameter wire. Machine is driven by 1½-hp motor and features fine adjustment of stroke, tool setting, feed, and cutoff. It has shear pins at critical points to prevent tool damage, plus a one-shot lubrication system. • REM Sales Inc., 5004 Farmington Ave., West Hartford 7, Conn.

For more details circle NED-557 B on enclosed inquiry slip

LIGHTWEIGHT Handy Man GOES ANYWHERE

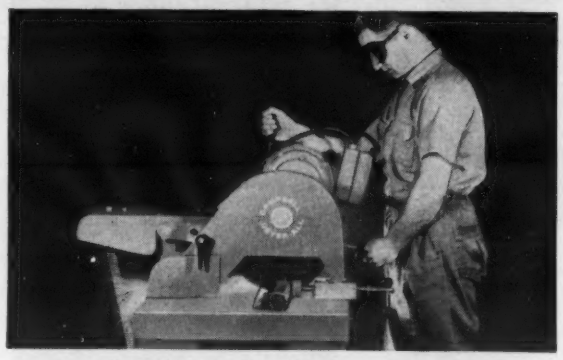
HYTROL MODEL R ALUMINUM CONVEYOR

Sizes from 10 to 21 feet, 12" belt, reversible, truss-designed for heavy loads. Accessories: Wheel and floor stands, power feeders, roller mounting, troughing attachment.

Write for your Hytrol Catalog

HYTROL Conveyor Co. INC.
1965 S. 54th Street Milwaukee 19, Wis.

For more details circle NED-558 B on enclosed inquiry slip



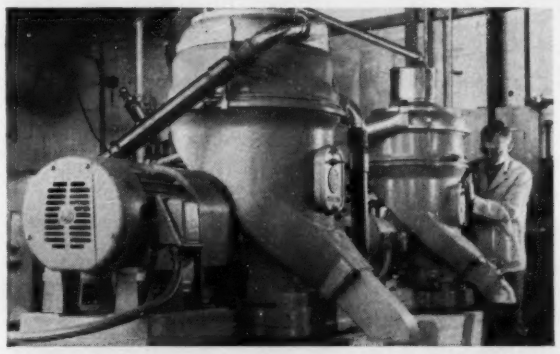
NEW Model 1-A SEVER-ALL CUTS AT 3 to 6 SECONDS PER SQ.IN.—ECONOMICALLY

- New abrasive cutting machine—less than $500
- Wheel oscillation provides capacity up to 2" square solids, 3½" O. D. pipe and tubing, 3" angle iron, 4" channels
- Clean cuts on large or small sections
- Cuts cold rolled, stainless, and alloyed steel; cast iron; non-ferrous metals
- Little or no set-up time required
- Just two wheels for all SEVER-ALL cutting jobs
- Available from distributors

Write FOR BULLETIN DH-106

SEVER-ALL ABRASIVE CUTTING MACHINES ACCO
Allison-Campbell Division
American Chain & Cable Company, Inc.
930 Connecticut Avenue, Bridgeport 2, Conn.

For more details circle NED-559 B on enclosed inquiry slip



Do you have these separating problems?

• Solid weighs only slightly more than liquid • Over 99% of solids must be removed • Liquids contain fine, slimy or abrasive particles • Solids must be concentrated to 100% by volume • Liquids are viscous, aerated or mixed

You can handle all of these difficult separations with one centrifuge—the Pfaudler Titan Superjector.

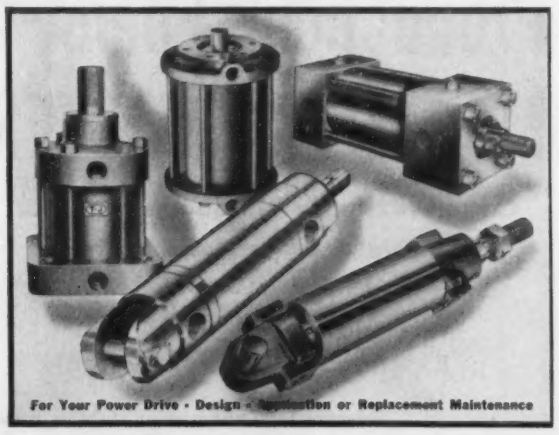
The Titan gives you a settling power of 7800 times gravity; provision for discharging particle sizes up to ⅛" diameter; and a three-jet hydraulic system that opens and closes discharge slots in 1/10 of a second and then seals the bowl.

Test your product separations in our lab, or in your own plant with a Pfaudler field evaluation unit.

For Free Bulletin 946 write to our Pfaudler Division, Dept. NED-20, Rochester 3, New York.

PFAUDLER PERMUTIT INC.
Specialists in FLUIDICS . . . the science of fluid processes

For more details circle NED-560 B on enclosed inquiry slip



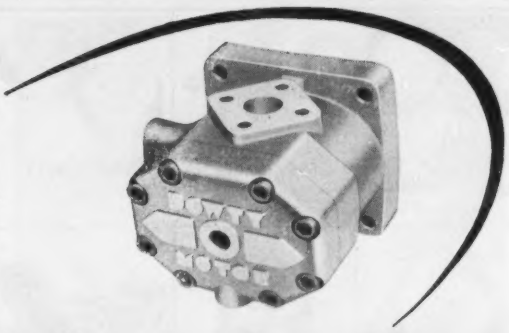
There's a T-J CYLINDER
That Can Assure *Accurate Efficient Operation*

Only T-J's complete line can assure you a cylinder of either air or hydraulic application—with practically limitless design specifications for bore, stroke, pressure range and even delivery requirement. From the time-tested, standard tie-rod air and hydraulic, to the exclusive T-J Spacemaker, and including the recently introduced Squair Head, T-J cylinders give you more features for efficient, long-lasting operation. Write today!

Plus THE ONLY COMPLETE ENGINEERING CATALOG LINE, TOO!

THE TOMKINS-JOHNSON CO. JACKSON, MICH.
CYLINDERS • MILLING CUTTERS • RIVETERS and CLINCHERS

For more details circle NED-561 B on enclosed inquiry slip



Hydraulic Gear Motors

- Unique pressure balanced design developed by Dowty in England gives overall efficiences to 80%
- Minimum starting torque equals 65% of running torque
- Six models, outputs 1 to 25 HP, speeds to 3000 RPM
- Motors reversible . . . may be operated in series
- Carry overhung loads

WRITE FOR DATA

Berry HYDRAULICS
A DIVISION OF THE OLIVER TYRONE CORPORATION

General Sales Office: Oliver Building, Pittsburgh 22, Pa.

Southern Sales Office and Plant: Corinth 1, Miss.

REPRESENTATIVES IN PRINCIPAL CITIES

▲ For more details circle **NED-562 B** on enclosed inquiry slip ▲

METALSET® A4

Epoxy Resin in Tubes

ADVANTAGES OF METALSET

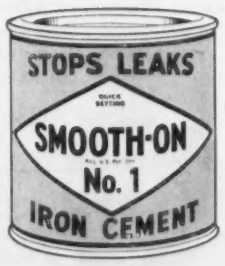
Bonds and cements iron, steel, aluminum, ceramics, concrete. Tough for shock resistance. Packed in self-metering tubes. Also available in 2½, 5, 20 and 100 pound cans. • Water- and oil-proof • Chemically stable.

TYPICAL METALSET REPAIRS

- Stops leaks in tanks, metal roofs, gutters, radiators, pipes
- Caulks conduits, flues, casements, skylights, all sheet metal
- Smooths and fills metal and wooden surfaces
- Machinable; can be drilled, tapped, sanded
- Makes all loose parts tight
- Anchors bolts and screws in wood, concrete, plaster

SMOOTH-ON IRON CEMENT
"SMOOTH-ON NO. 1"

Smooth-On is a dry powder, 70% iron. Mix it with water, it metalizes as it hardens. Resists high temperatures. Expands as it sets to fill a break or hole in any metal. The standard since 1895.
• Smooth-On is a metal filler. Metalset is a coating and bonding compound. Taken together, they meet any emergency.



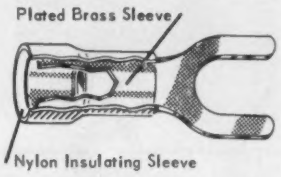
METALSET

Made by SMOOTH-ON MANUFACTURING CO.
572 Communipaw Avenue, Jersey City 4, N. J.

▲ For more details circle **NED-563 B** on enclosed inquiry slip ▲

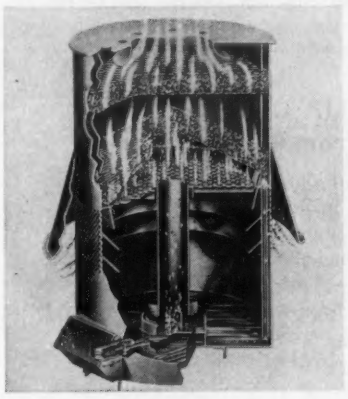
SOLDERLESS TERMINALS
design resists stress, vibration

Solderless terminals with the Avikrimp construction style have an annealed, tin-plated brass sleeve to add extra barrel strength and permanently anchor the wire insulation to the terminal. It also features a permanently attached nylon insulation sleeve which extends beyond metal support sleeve. Construction withstands stress and high vibration. • **Waldom Electronics, Inc.**, 4625 W. 53rd St., Chicago 32, Ill.



▲ For more details circle **NED-564 B** on enclosed inquiry slip ▲

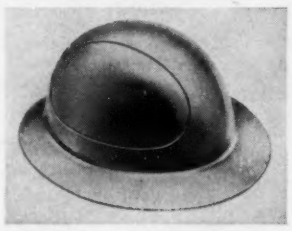
OIL BATH AIR FILTER
automatic unit is self-cleaning



Pneumatic lift of the redesigned Model C P01 Cycoil oil bath air filter lifts oil from the reservoir to the perforated oil distribution plate, which in turn distributes the oil to the pads. The high efficiency, low maintenance unit operates automatically and is self-cleaning. Changes include a new cleanout door and a bull's-eye gage to observe oil level. Unit is used as an air cleaner on industrial engine intake. • **American Air Filter Co.**, Dept. PD, 215 Central Ave., Louisville 8, Ky.

▲ For more details circle **NED-565 B** on enclosed inquiry slip ▲

SAFETY HAT
designed for electrical workers



One-piece tough, moistureproof, resilient, molded plastic Volt Shield safety hat meets EEI specifications for electrical workers. Reinforced hat withstands 40 ft-lb of pressure without decrease in dielectric strength. Voltage protection is equally effective in temperature extremes. Hat resists water, oil, grease, and most chemicals and is offered in white or yellow colors. Six plastic wedges attached to geodetic-type suspension resist tendency of hat to shift, tilt, or crash against the skull under angular blows. Chin strap and winter liners are available. • **Ray-O-Vac Co.**, Willson Products Div., 567 Thorn St., Reading, Pa.

▲ For more details circle **NED-566 B** on enclosed inquiry slip ▲

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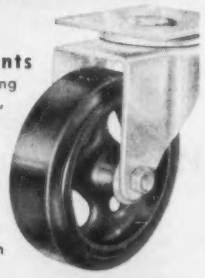
Send for our new fully illustrated catalog showing the complete line of Midwest Industrial Casters. Explains uses, types, construction. Easy to read charts give complete specifications.

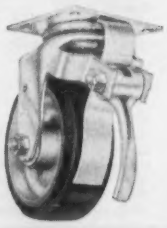
Made To Meet Your Requirements
Thousands of Midwest Casters are being used by Automotive, Aircraft Industries, Stamping Plants, General Construction Companies, Foundries, Bakeries and Warehouses.

They Are Built Better—Work Better
Years of on-the-job service have proven Midwest Casters to be dependable and economical. You save when you buy them . . . You save when you use them.



PressCoin now available for Scaffolds. 5"-6"-8" Wheels and *Foot Operated* Brake-Lock

New lock securely holds both wheel and swivel rigidly in position. Available in 5"-6"-8" stem-type or with regular top plate.



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JACKSON, MICHIGAN

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Best Economy for Light-Duty Stamping Jobs

- Wedge-Grip design for deep, clear impressions
- Quick type-change feature
- Holder accomodates nine type sizes

Outfits include from 80 to 154 pieces of type—plus a holder made from non-spalling, non-mushrooming Mecco Safety steel.

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Mecco SAFETY UTILITY MARKING OUTFIT

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5 Basic Sizes

- Speed up to 200 RPM
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- Open or enclosed case
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- Machine cut gears
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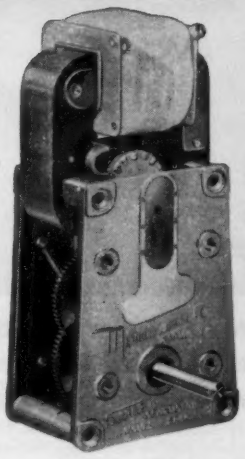

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Measures electrode pressure on spot welders and roll welders. Makes compressive tests on forming, dimpling and upsetting operations. Also useful for weighing. Insulated contact surface prevents damage if welder is accidently fired. Easy setups, no delicate mechanisms, 5 ranges: 0-1000, 6000, 10,000, 20,000, 40,000 lbs. 3½" diameter gauge with accuracy to 1%. Reads directly in pounds—no conversion scales. Write for details.

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Dept. N, 11856 Mississippi Ave., Los Angeles 25, California

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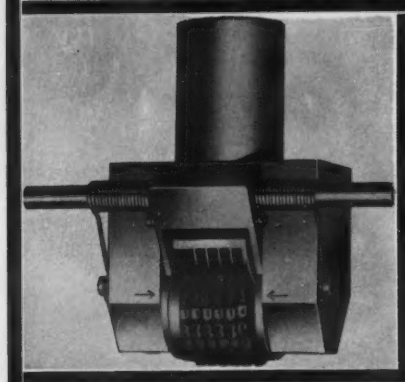

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PERMANENT NUMBERING INTO METAL

Choice of Gothic or Roman numerals—sizes 1/16 in. to 1/4 in.

PRYOR AUTOMATIC NUMBERING HEADS

Pryor Model "W" numbering heads indent clear sharp impressions into metal with precision accuracy. Rugged construction assures rapid and dependable operation at all times. May be set for consecutive or repeat action. Available from stock for immediate delivery.

A Pryor marking machine is available for your specific need. Advise us of your numbering or marking problem.

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PRYOR MARKING PRODUCTS

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McGILL sealed CAMROL® bearings insure precision roller follower performance

Only McGill Sealed Camrol bearings offer effective sealing, pre-lubrication and high radial and shock capacity in a full range of standard sizes.

Cut bearing failure and maintenance. Eliminate the cost of "building up" improvised bolt and roller units. Specify SCF Sealed Camrol bearings. Standard stock with roller diameters up to 4". Available also for shaft mounting.

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engineered electrical products — McGILL® precision needle roller bearings

McGILL MFG. CO., Bearing Div., 101 N. LAFAYETTE ST., VALPARAISO, IND.

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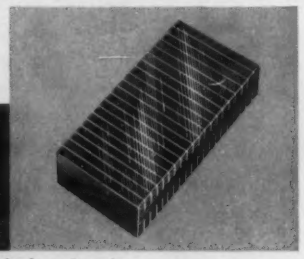
Get precision that gives precision . . .



Magnetic PARALLELS and V-BLOCKS

PARALLELS . . . ground singly or in pairs

Number	Dimensions	Wt. Each	Price Each	Price Pair
M-1	⅜ x 1½ x 3	1¼ lbs.	$11.00	$20.00
M-2	⅜ x 1½ x 6	2¼ lbs.	17.00	30.00
M-11	⅜ x 2 x 4	2½ lbs.	17.50	31.00
M-153	1 x 1½ x 3	1½ lbs.	13.00	23.00
M-22	1 x 2 x 2	1½ lbs.	12.00	21.00
M-23	1 x 2 x 3	2 lbs.	15.00	27.00
M-3	1 x 2 x 4	2¾ lbs.	18.00	32.00
M-4	1 x 2 x 6	4 lbs.	19.00	34.00
M-28	1 x 2 x 8	5¾ lbs.	22.00	39.00
M-255	1 x 2½ x 5	3½ lbs.	20.00	36.00
M-34	1 x 3 x 4	3¼ lbs.	20.00	36.00
M-5	1 x 3 x 6	6 lbs.	26.00	46.00
M-38	1 x 3 x 8	7½ lbs.	37.00	66.00
M-312	1 x 3 x 12	12 lbs.	52.00	93.00
M-356	1 x 3½ x 6	6¾ lbs.	32.00	57.00
M-6	1 x 4 x 4	5½ lbs.	22.00	39.00
M-46	1 x 4 x 6	8 lbs.	37.00	66.00
M-48	1 x 4 x 8	9¼ lbs.	45.00	81.00
M-412	1 x 4 x 12	16 lbs.	73.00	131.00
M-510	1 x 5 x 10	18 lbs.	77.00	138.00
M-610	1 x 6 x 10	20 lbs.	79.00	142.00
M-612	1 x 6 x 12	24 lbs.	100.00	180.00
M-7	1 x 8 x 8	22 lbs.	86.00	154.00
M-8	1⅛ x 1⅝ x 4½	3½ lbs.	19.00	34.00
M-9	1⅝ x 2 x 3	1½ lbs.	17.00	30.00
M-248	2 x 4 x 8	18 lbs.	86.00	154.00

V-BLOCKS . . . 90° V and 45° from centerline

Size No.	Height, Inches	Width, Inches	Length, Inches	Price Each	Price Pair
MV-1	1¾	2½	2½	$38.00	$68.00
MV-2	1¾	2½	4	58.00	102.00
MV-3	2	6	6	96.00	172.00
MV-4	1¾	2½	6	72.00	129.00

Order now for prompt delivery!

Hanchett MAGNA-LOCK, CORP BIG RAPIDS, MICHIGAN

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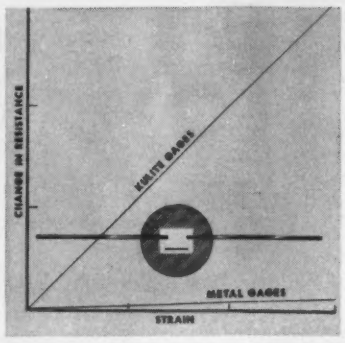
STRAIN GAGE with gage factor of 115



Gage factors from 100 to 200 in line of semiconductor strain gages make possible a variety of strain measurements heretofore impossible or extremely difficult to obtain. Resistance values range from ohms to megohms in the same 5/16 x ½-in. size. Type DA-101 gage has nominal resistance of 70 ohms and gage factor of 115. Gages are complete with strong nickel leads. Graph shows comparative resistance change. • **Kulite-Bytrex Corp.**, 50 Hunt St., Newton 58, Mass.

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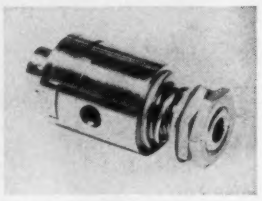
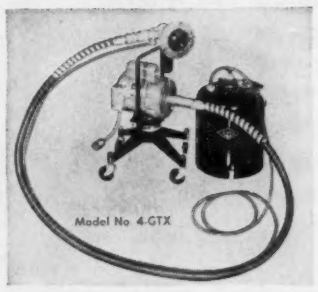
COUPLING & SLIP CLUTCH adjustable from 0.05 to 50 oz-in.



Split and pin type hubs are offered in Type T14 in-line coupling and slip clutch. The stocked unit is made in a variety of bores with spring slip torques adjustable from 0.05 to 50 oz-in. Maximum backlash is 10 min, and it accommodates shaft-to-shaft misalignment up to 0.010 in. and angular misalignment up to 1 degree. • **PIC Design Corp.**, 477 Atlantic Ave., East Rockaway, L. I., N. Y.

▲ For more details circle NED-575 B on enclosed inquiry slip ▲

FLEXIBLE SHAFT GRINDER mounted on swiveling caster base



Attachments and accessories available for the 1-hp Wyco Handy flexible shaft grinder have quick-change connectors. Thus, it can be changed from straight grinding spindle to angle heads of various gear ratios in a few seconds. Unit is mounted on a four-leg swiveling caster base. Water attachments with water can and hose are suited for wet grinding. Model 4-GTX illustrated has a wet angle head and pressure water can for high speed terrazzo or marble work. • **Wyzenbeek & Staff, Inc.**, 223 N. California Ave., Chicago 12, Ill.

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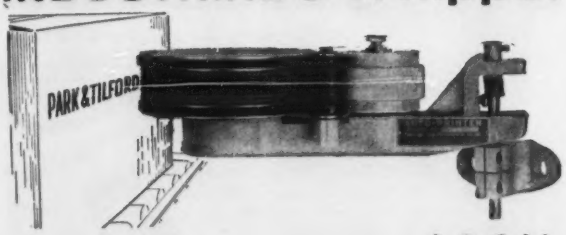
NO. 1 SPECIALIST IN THE MARKING FIELD INDUSTRIAL'S Whippet



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Versatility . . . automatically imprints cartons, bags, rolls, cans, containers and packages — as you need them during production line runs.

Low cost . . . "Whippet" sells low, seldom requires attention or maintenance.

Capacity . . . works non-stop at production lines speeds. No misses or overprints.

Simple Operation . . . attaches quickly and easily direct to conveyor line; non-oscillating friction head uses interchangeable rubber type for clear, legible impressions.

Saves . . . expensive hand stencilling, pre-printing, storage and inventory costs.

Proved practical and economical on almost any marking problem — in plants all over the country — "Whippet" is so simple, well designed and manufactured that experience proves they serve faithfully and profitably far beyond ordinary equipment. See how they can improve your operation.

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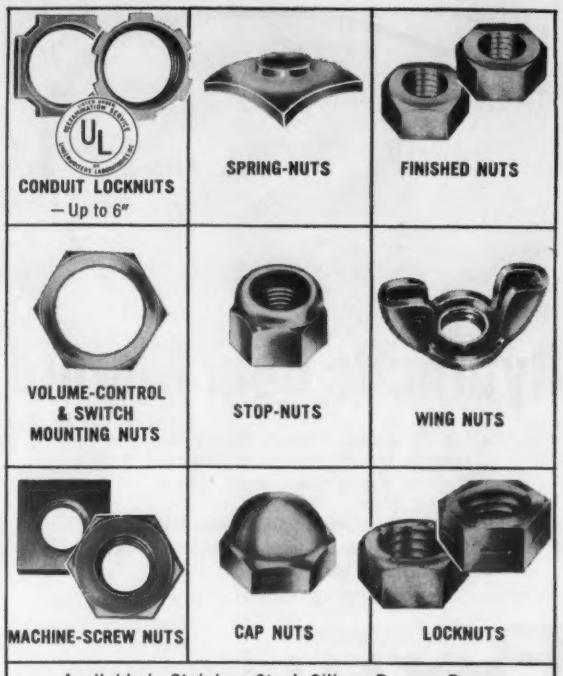

Available in Stainless Steel, Silicon Bronze, Brass, Aluminum and Steel

JACOBSON NUT MFG. CORP. Kenilworth, New Jersey

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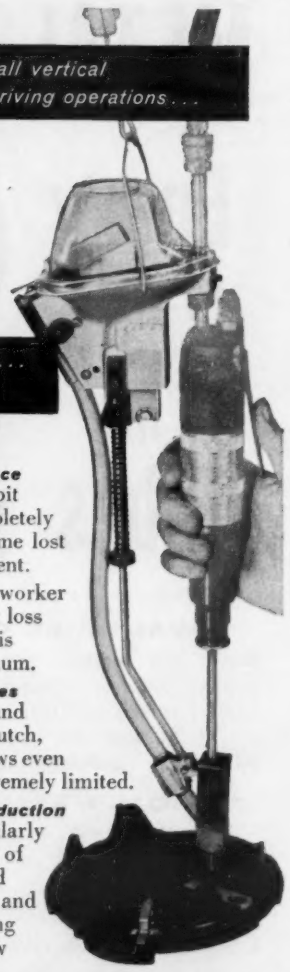
new . . . low cost . . . for all vertical screw driving operations . . .

STRIPPIT ZIPP SCREW FEEDERS



save time . . . cut costs . . . reduce worker fatigue

save 2 to 25 seconds per piece per station — the new Strippit Zipp Screw Feeder completely eliminates production time lost in manual screw placement.

reduce errors and rejects — worker fatigue with its resulting loss of production efficiency is cut to an absolute minimum.

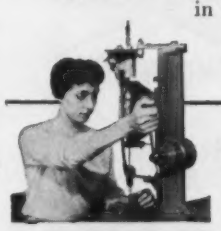
automatically feeds and drives all type screws — will feed and drive slotted, socket, clutch, hex or Phillips head screws even where clearances are extremely limited.

high efficiency, long run production — these units are particularly effective for the assembly of appliances, electronic and electrical components — and any application requiring continuous vertical screw driving operations.

for all makes of air and electric tools — Zipp Screw Feeders are designed to fit perfectly on all makes of power screw drivers. They are factory set to fit your present or new equipment.

precision built for accurate operation — the screw holding collets of these machines are precision machined to hold screws accurately and firmly for finding screw holes.

low cost, high speed, ease of operation — all contribute to production line economies that enable Strippit Zipp Screw Feeders to pay for themselves in from 30 to 120 days.



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STRIPPIT ZIPP SCREW FEEDERS MOUNT ANYWHERE — on a balancer, fixed position stand, swing arm tool mount, etc. — to meet your individual requirements.

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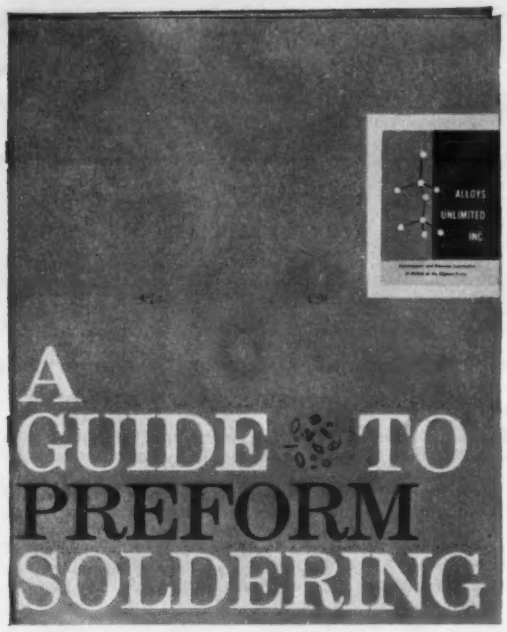

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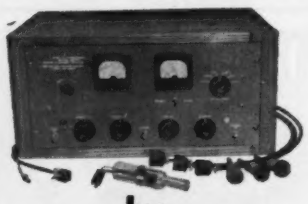

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Now you can KNOW the pressures in your Vacuum System with greater assurance . . . KINNEY High Vacuum Gages not only give you accurate readings, they give them to you *faster* and *easier*. The KINNEY Compensated Thermocouple Gage covers the range from 3000 to 1 micron. The GICT Ionization-Thermocouple Gage—from 3000 microns to 10^{-7} mm Hg.

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THE NEW YORK AIR BRAKE COMPANY
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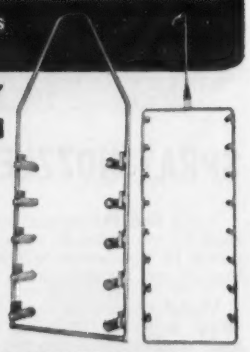
NEW!
FASTER RACKING
for conveying all Sizes and Shapes of Stampings, Parts, etc.



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ERIUM-POWERED*
MAGNA-RAX

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GET INCREASED CONVEYING EFFICIENCY. Magna-Rax magnetic power holds parts firmly in place while being conveyed . . . loading and unloading is faster . . . easier! One model will handle hundreds of sizes and shapes of parts . . . Magna-Rax are ideal for assembly line operations, where parts are conveyed from one point to another. Magnetic strength firmly holds parts while many operations such as tack off, dipping, spray painting, coating, degreasing, washing, inspecting, etc., are being performed . . . no need for special holes, lips, etc., on the parts as a means of holding.

Ideal for overhead or monorail systems. Rust and corrosion resistant . . . unaffected by temperatures up to 750°. Available in most any size and shape and with any number of Holding Magnets.

ERIEZ

Write for data on this exciting new product • Eriez Mfg. Co., 80-BA Magnet Dr., Erie, Pa.

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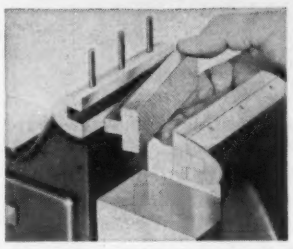
ULTRAVIOLET STERILIZER for cups, tools, safety equipment

Originally developed for sterilizing cups at company "coffee break" areas, this Clean Ray ultraviolet sterilizer can also be used for dry sterilizing of first aid equipment, safety goggles, face masks, and other industrial equipment. Cups, silverware, tools, or equipment placed in unit and exposed to the germicidal radiation for only 3 min are safe to use. It plugs into any 115-v electric outlet and operates for 2 cents a day. Model GC-8-15 complete with eight ceramic mugs retails for $34.95. A 12-cup model is also available. Finish is sienna tan with chrome trim. • **Infra Corp.**, 66 S. Main St., Clarkston, Mich.

▲ For more details circle NED-583 B on enclosed inquiry slip ▲

MACHINISTS' VISES have replaceable jaw faces



Hardened tool steel T-jaw faces are designed into the unbreakable malleable iron jaws of this line of machinists' vises. Jaws cannot come loose, but are easily replaceable. Entire jaw face area is a solid gripping surface without screw holes or heads. • **Columbian Vise & Mfg. Co.**, 9023 Bessemer Ave., Cleveland 4, Ohio.

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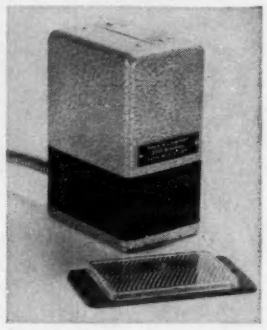
PHOTOCELL SWITCH is self-contained reflex type



Light source, photocell, and transistorized amplifier of the LS Series reflex optical switch are combined in a single 3⅜ x 2 9/16 x 5⅛-in. unit. A single lens serves for the exit and return of the light beam. Mirror returns the beam of light despite misalignments over 15 degrees. Unit is insensitive to ambient light, shock, and vibration. Focused and parallel beams are available for operating as close as 1 in. or as far as 80 ft. Objects smaller than 0.05 in. can be detected normally; with focusing, units with one dimension less than 0.0001 in. can be sensed. Stocked unit sells for $137.50. • **Presin Co.**, 2014 Broadway, Santa Monica, Calif.

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Better Steel Think about Rule Dies!

Save up to 90%

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YOU CAN MAKE STEEL RULE DIES FASTER, BETTER, CHEAPER WITH *RICHARDS* STEEL RULE DIE-MAKING EQUIPMENT!

Build steel rule dies in your own plant! Production cost and waiting time go down when Richards Equipment goes to work for you! More and more progressive manufacturers are turning to steel rule dies for faster, higher-profit work on all types and gauges of metal.

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J.A. Richards Company

NORTH PITCHER STREET • KALAMAZOO, MICHIGAN

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With heavy duty, rubber tired, ball bearing wheels and one piece fold-down handle, the Wells Model 49A is a metal cutting band saw that's REALLY MOBILE . . . and VERSATILE. Use the 49A as a horizontal cut-off machine (capacity 3½" x 6") or swing the head to vertical position . . . it's an upright band saw.

The optional wheel and handle unit, available for new machines and those already in service, is a tremendous time and labor saver. Ask your local Wells Distributor for details . . . or write for Bulletin 253-H.

Wells

The Pioneers of Horizontal
METAL CUTTING BAND SAWS
WELLS MANUFACTURING CORPORATION
1313 Harding St., Three Rivers, Mich.

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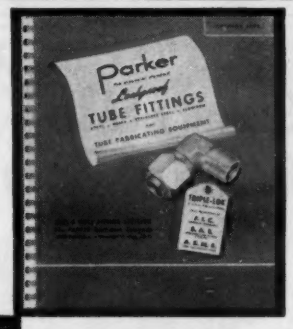

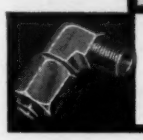

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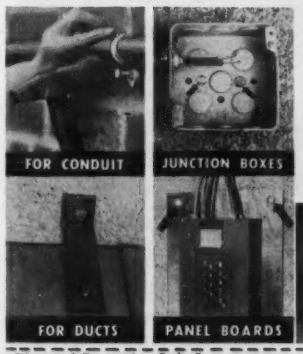
"Only 20 Seconds*

Hole and All . . .

is all it takes to ANCHOR into BRICK or CONCRETE with DHD® Hammer Drive Anchors. They are SAFE, fast and secure. The smallest size holds 500 to 700 lbs. For use indoors or outdoors. Sizes available from*3/16" x 7/8" to 1/2" x 3-1/2". Would you like to try a few samples, free? Just fill in the coupon below."



JOHN A. WRIGHT Vice President

WHERE TO BUY DHD® ONLY thru your distributor, whose stocks of all Diamond Anchors enable you to get fast delivery service. This policy plays an important part in your ability to get contracts done faster and profitably.

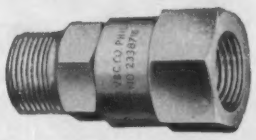
BRANCHES: Atlanta - Boston - Chicago - Dallas - Denver - Detroit - Los Angeles - New York - Philadelphia - Pittsburgh - San Francisco - Seattle - St. Louis - Washington, D. C. - Montreal - Vancouver - Canada.

Diamond Expansion Bolt Co.
Garwood, N. J., U.S.A.
Please send me samples of your DHD Hammer Drive Anchors

Name_____
Concern_____
Street_____
City_____ State_____

▲ For more details circle NED-589 B on enclosed inquiry slip ▲

KEEPS HOSE FREE from Harmful Twists and Kinks



"DIXON" SWIVEL CONNECTION

Used on end or intermediate connections this practical I.P.T. fitting eliminates twisting and kinking in hose in sizes up to ¾" I.D. Turns freely and remains leakproof under pressure. No parts to get out of order. Steel, cadmium plated.

ORDER FROM YOUR DISTRIBUTOR

DIXON *Valve & Coupling Co.*

GENERAL OFFICES & FACTORY—PHILADELPHIA 22, PA. BRANCHES—CHICAGO BIRMINGHAM • LOS ANGELES • HOUSTON • DIXON VALVE & COUPLING, LTD., TORONTO

ASSOCIATE COMPANIES—BUCK IRON COMPANY, INC., QUARRYVILLE, PA. • PRECISION DRAWN STEEL COMPANY, CAMDEN, N.J.

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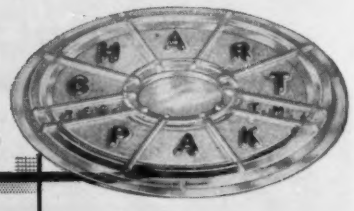
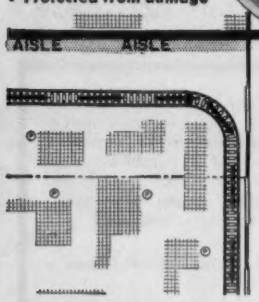
Chart-Pak Tapes for Plant Layouts now in NEW TAPE-SAVER DISPENSER . . . *at no extra cost!*

- ONLY CHART-PAK HAS IT!
- Keeps tape edges clean
- No waste . . . use every inch
- Easy spindle storing
- Protected from damage





Make plant layouts in minutes . . . with Chart-Pak pressure-sensitive tapes and templates. Saves the time and tedium of drawing, and are absolutely dependable for accuracy. Tapes and templates stick firmly, adhesive will not melt under heat of reproduction, yet can be easily lifted and relocated for corrections and revisions.

Write for full details, or consult your Yellow Pages under "Charts-Business."

Saves Time . . . Saves Money!

CHART-PAK, INC.

ORIGINATOR OF THE TAPE METHOD OF DRAFTING

362 River Road, Leeds, Mass.

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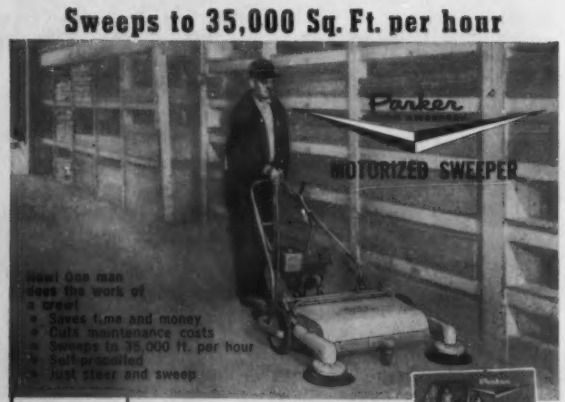
SLASH Maintenance Costs

Sweeps to 35,000 Sq. Ft. per hour



TURBO SWEEP . . . Dust-free sweeping at low cost. Sweeps 50,000 ft. per hr.

MANUAL . . . Easy to maneuver around boxes, crates, in aisles. 20" and 28".

MAIL NOW!

PARKER SWEEPER CO., Dept. NE
Springfield, Ohio

Send me free booklet and give me money-saving facts!

Name _____
Company _____
Address _____
City _____ State _____

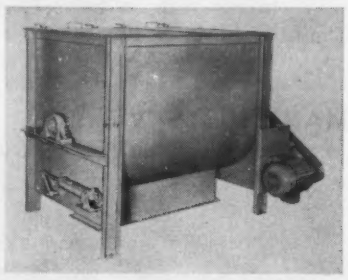
▲ For more details circle **NED-592 B** on enclosed inquiry slip ▲

TORQUE WRENCH
double-handle tool rated 100 lb-ft

Double - handle Model TDF-100 torque wrench can be used in confined spaces since less than ¾-in. rotary travel will give total torque of 100 lb-ft. Torque bar is alloy steel, whereas indicator housing and handles are aluminum. The 2½-in. OD dial indicator is graduated down to 5 lb-ft. Tool is 20 in. long and weighs 3 lb. A heavy-duty model with torque range to 600 lb-ft is available. • Apco Mossberg Co., 1010 Lamb St., Attleboro, Mass.

▲ For more details circle **NED-593 B** on enclosed inquiry slip ▲

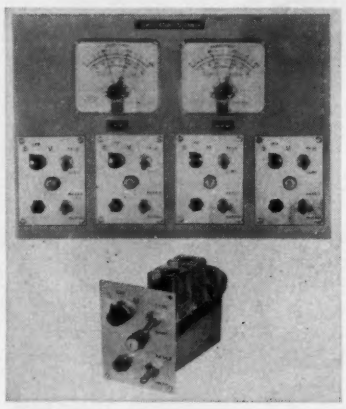
RIBBON BLENDERS
mix thoroughly and economically



Batches of 20 to 200 cu ft are completely mixed in line of ribbon blenders. They prevent contamination, have controlled agitation, and are offered with choice of drives. Standard and sanitary models, latter with stainless or vinyl coated tub and removable agitator, are easily cleaned. The reversing double-spiral ribbon agitator has heavy duty outboard bearings and externally adjustable packing glands. Steam or water jacket is optional. • Munson Mill Machinery Co., 1000 Seward Ave., Utica, N. Y.

▲ For more details circle **NED-594 B** on enclosed inquiry slip ▲

MODULAR TEMPERATURE SCANNER
monitors up to 50 points



Up to 50 temperature - sensitive elements can be precisely monitored by this modular temperature scanner. Modules consist of relays and potentiometers mounted on a plug-in base. Each module can have a different temperature limit. Scanning indicator reads each point successively from 1 to 50 and sounds an alarm and lights the numbered module of any point exceeding the limit. Monitoring indicator continuously reads any one selected point and gives the same alarm. Scanning rate is variable. • Tipptronic, Inc., 510 E. Washington St., Chagrin Falls, Ohio.

▲ For more details circle **NED-595 B** on enclosed inquiry slip ▲

Easiest Way To Use Epoxy Resin Adhesives

. . . Fenwal's new custom designed Adhesive Pack

(Pat. applied for)

Saves time — mixture is exactly proportioned to give you better bonding and strength. No time wasted in measuring.

Reduces waste — packs available with formulations and amounts *tailored* to your work requirements.

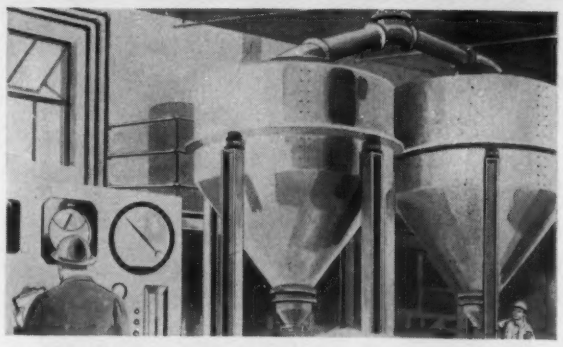
Try it yourself! Send for a sample pack today — ONLY $1.00

This handy Adhesive Pack permits you to mix resin and curing agent without exposure to air or skin. The resin is contained in a sturdy, clear, plastic Pack. The curing agent is hermetically sealed in an attached collapsible tube. Until you use the Pack, the resin and agent are kept separate; then your mixing is done within the plastic bag. Shelf life is one year.

Available in virtually all formulations and de-gassed Packs . . . custom-made to your specifications, Fenwal Adhesive Packs are quick, safe, easy, and economical. Send for your sample Pack today — only $1.00 or write for a free folder to Adhesives Pack Department, Fenwal Incorporated, 271 Pleasant St., Ashland, Massachusetts.

Fenwal Controls Temperature . . . Precisely

▲ For more details circle **NED-596 B** on enclosed inquiry slip ▲



Emery Engineered Weighing System Provides Control for Hopper-Filling Mechanism

Powdered ascorbic acid used in making Vitamin C pills is gathered in hoppers which handle a maximum net load of 8750 pounds.

An explosion-proof weighing system was needed which would automatically actuate a diverting gate to switch the in-flow from one hopper to another.

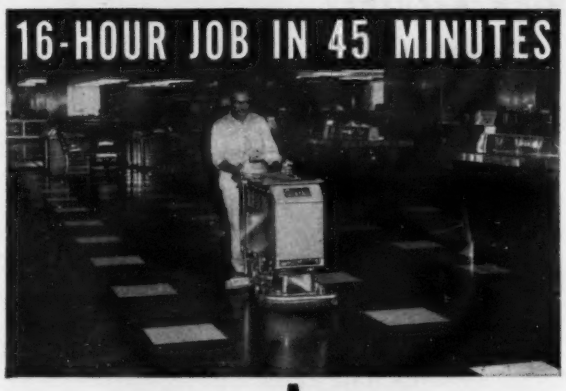
An Emery Engineered Weighing System, consisting of four Model EC-30 load cells, a hydraulic totalizer, an Emery Indicator and a Foxboro controller, handled the hopper-weighing job with an accuracy of ¼% of full range. Customer satisfaction followed installation.

If you have a weighing problem write today to The A. H. Emery Company, Pine Street, New Canaan, Conn.

EMERY *Engineered* WEIGHING SYSTEMS

▲ For more details circle **NED-597 B** on enclosed inquiry slip ▲

16-HOUR JOB IN 45 MINUTES



ClarkeAmatic

self-propelled floor maintainer

Cleans the 7214 sq. ft. floor in Atlanta's Fulton Bank in 45 minutes — formerly a four-hour job for a four-man crew. Saves 15¼ man hours. *Does a better job, too.*

Battery, electric, gasoline, propane powered models. Ask your Clarke distributor how much *you'll* save.

THE BEST KNOWN NAME IN FLOOR MACHINES

POWER SWEEPERS • WET-DRY VACUUM CLEANERS • FLOOR MAINTAINERS • UPHOLSTERY SHAMPOOER-VACUUM

CLARKE FLOOR MACHINE COMPANY

222 E. Clay Avenue, Muskegon, Mich.

Authorized Sales Representatives and Service Branches in Principal Cities
Distributed in Canada: G. H. Wood & Co. Limited, Box 34, Toronto 18, Ont.

▲ For more details circle **NED-598 B** on enclosed inquiry slip ▲

DELAVAN

SPRAY NOZZLES for industrial use

You'll find the nozzle that's right for your specific requirements in the complete selection offered by Delavan.

Manufacturers all over the world rely on Delavan for high quality, precision industrial nozzles.

Whatever your nozzle requirements, specify Delavan.

Write for Catalog 33 for complete details and technical specifications.

DELAVAN *Manufacturing Company*

WEST DES MOINES • IOWA

▲ For more details circle **NED-599 B** on enclosed inquiry slip ▲

BIG POWER-*in a portable package!*

NEW! BEEBE RATCHET-HOISTS

6 MODELS • 12 CAPACITIES
750 Lbs. to 4000 Lbs.

"Snap-On" Quick Reversing Handles

Manufactured by **BEEBE BROS.**

The most famous name in hand winches for over 40 years!

Here's a new line of RATCHET-HOISTS backed by the reliable name of BEEBE BROS. • Superior to anything on the market • Simplified design with fewer parts • Extra strength from oversize steel shafts • Cable wind-up handles standard on all models • Triple-hook system standard on all models • Safety handles • Design tested for overload • Warranted 1 year against defective parts.

Ask Your Industrial Distributor About the New Line of Beebe Ratchet-Hoists

BEEBE BROS. *Manufacturing Co.*
2732 Sixth Avenue South • Seattle 4, Wash.

Beebe Winches—strongest geared power for their weight in the world

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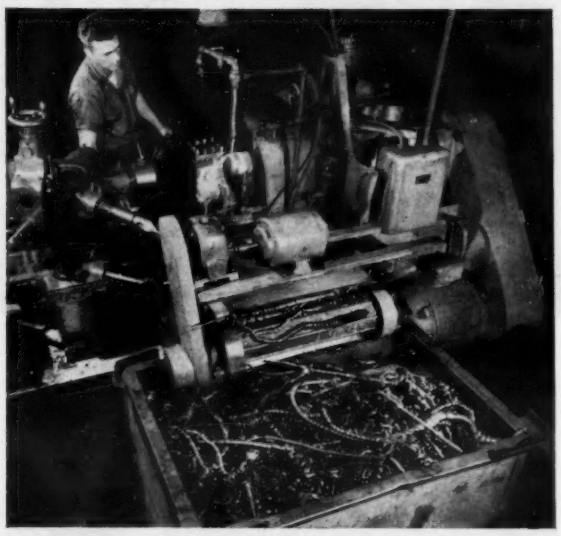
NO DOWN-TIME FOR SCRAP REMOVAL!



with MAY-FRAN CHIP-TOTE

PROVIDES CONTINUOUS REMOVAL OF CHIPS TURNINGS AND BORINGS FROM MOST MACHINE TOOLS!

Here is another installation of the famous CHIP-TOTE in action. This machine tool attachment can pay for itself in 6 months or less . . . it will increase production . . . reduce costs. Scrap is channeled clear of the machine for discharge into tote boxes or onto carry-off conveyors. Available in complete range of sizes.

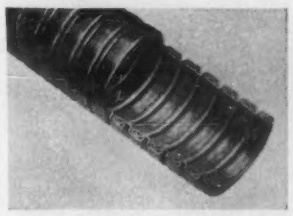
MAY-FRAN ENGINEERING, INC.
1711 Clarkstone Rd.
Cleveland 12, Ohio

Write today for CATALOG MF-640

8716-MF

▲ For more details circle **NED-601 B** on enclosed inquiry slip ▲

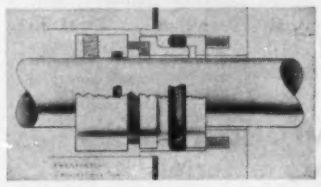
FLEXIBLE PRESSURE HOSE
conveys hot or cold liquids



Hot or cold liquids are conveyed under pressure by Interlox BD-15 flexible metal pressure hose, available in coated galvanized steel, stainless steel, or phosphor bronze. Packed with UL-approved asbestos yarn, hose can be used for remote valve control, steam lines, pressure sprayers, hot tar or asphalt spraying, torque tool shafting, and numerous chemical applications. Sizes of ½, ¾, 1, 1¼, 1½, 1¾, 2, 2½, and 3 in. ID are available. • **International Metal Hose Co.**, Ashford Avenues, Bellevue, Ohio.

▲ For more details circle **NED-602 B** on enclosed inquiry slip ▲

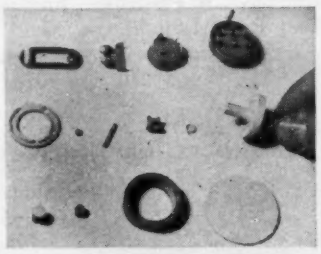
MECHANICAL FLUID SEAL
hydraulic force causes seal pressure



Fluid pressure alone closes the sealing faces of this CounterPoise Seal designed for reliable vacuum-to-high pressure sealing against a wide range of fluids, including corrosives. Springs are merely used to hold faces in sealing contact when fluid pressure is below design minimum. Hydraulic pressure closure results in perfectly symmetrical and uniform face closure. Deep carbon face thus wears evenly and without any effect on balance. • **A. W. Chesterton Co.**, 6 Ashland St., Everett 49, Mass.

▲ For more details circle **NED-603 B** on enclosed inquiry slip ▲

CERAMIC COMPONENTS
supplied to close tolerances



Wide range of custom designed ceramic parts and assemblies for use in machine tool, electronic, electrical, and aircraft industries are being turned out on a commercial production basis. They are made to close tolerances from various ceramic formulas, some specially developed. A few resist up to 3000° F. Ceramic-to-metal seals for use in connectors, heaters, and other electronic components have bonds stronger than the original strength of either material. Piezo-electric transducers convert mechanical energy to electrical energy (or vice versa) in strain, force, depth, liquid level, density, and other types of gages. Small precision parts can be as thin as 0.006 in. thick. • **Minneapolis-Honeywell Regulator Co.**, Ceramics Laboratory, 1885 Douglas Dr., Minneapolis 22, Minn.

▲ For more details circle **NED-604 B** on enclosed inquiry slip ▲

NEW *FAS-LOK* STORAGE RACK

LOCKS IN A SECOND

- ONLY 2 BASIC PARTS . . . QUICK ERECTION
- NO WEDGES . . . NO BOLTS, NUTS, OR TOOLS REQUIRED
- SAFE . . . RUGGED . . . *COMPLETELY ADJUSTABLE*
- Easy access — front or rear.

FAS-LOK Racks can be quickly assembled into unlimited combinations of height, length, and shelf opening. Rigidly braced end frames, in standard heights from 5′ to 22′ 6″, have slots punched in uprights on 3″ centers. Horizontal runners have hookplates at each end. Each hookplate has two tapered ears which fit slots of upright (inset). To assemble FAS-LOK Racks, ears are set into the wedge-shaped slots on upright and a tap on horizontal runner drives ears down, seating them securely in a wedging action to produce a rock-solid rack. Can be used to store any material—Pallets, Skids, Rolls, Bulk storage, etc.

Horizontal runners available in lengths to 20 ft.; End Frames in depths from 2′ to 5′. End Frames made in capacities to 40,000 lbs. *Write for Catalog*

CHICAGO TRAMRAIL CORPORATION
1310 S. KOSTNER AVENUE, CHICAGO 23, ILLINOIS

▲ For more details circle **NED-605 B** on enclosed inquiry slip ▲

Lewis Stack-n-Nest® TOTE PANS

IN SIZES TO HANDLE EVERY PRODUCT

16 x 10 x 5
18 x 12 x 6
18 x 12 x 8
22 x 14 x 8
22 x 17 x 10
27 x 16 x 11
34 x 24 x 19
39 x 19 x 14

WITH ACCESSORIES FOR GREATEST VERSATILITY

PAN COVERS
• Molded of Fiberglass Reinforced Polyester in colors to match pans • Snug fit — keeps out dust and dirt • "Contour offset" for safe, high stacking of covered pans • Nest when not in use • Use as trays if desired • Popular sizes — fit the 22x14x8" and 27x16x11" Stack-n-Nest pans.

DOLLIES
• Molded of Fiberglass Reinforced Polyester in colors to match pans • Four heavy-duty, easy-rolling swivel casters • "Contour offset" for safe, secure stacking of pans • Quick, easy multiple handling and movement — loaded or empty • Rugged construction for big pay loads • Popular sizes — fit the 22x14x8" and 27x16x11" Stack-n-Nest pans.

G. B. Lewis COMPANY
402 Montgomery St.
Watertown, Wisconsin

STACK-n-NEST PANS PATENTED
2,823,828 2,823,829

▲ For more details circle **NED-606 B** on enclosed inquiry slip ▲

MEASURE RPM by TOUCH

with STANDCO VIBRATING REED TACHOMETERS
PORTABLE AND STATIONARY TYPES

- SIMPLE
- EFFECTIVE
- DURABLE
- SAFE
- IMPOSE NO LOAD
- EASY TO USE
- EASY TO INSTALL

Various models. Ranges as low as 600 RPM, as high as 100,000 RPM.

Bulletin No. 770

HERMAN H. STICHT CO., INC. 27 PARK PLACE, NEW YORK 7, N. Y.

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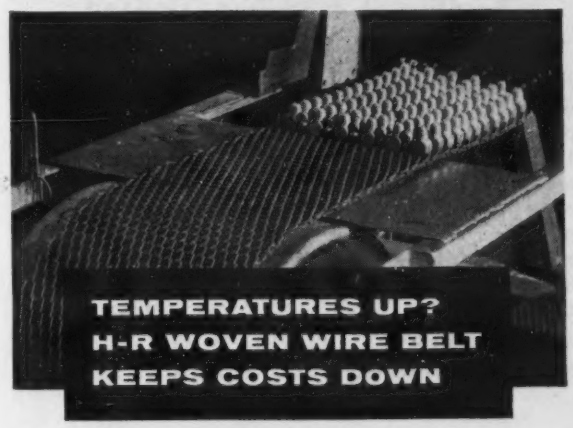

Hewitt-Robins woven wire belts are available in a wide variety of alloys, in standard and special constructions, with mesh openings from 1/64" to 3". Their flexibility, strength, and draining and circulating characteristics meet the demands of conveying materials larger than 1/64". Whether your processing involves brazing heat, subzero cold, corrosive action of gases and liquids, or other destructive forces, an H-R woven wire conveyor belt will meet your needs.

To obtain your free copy of woven wire belt catalog No. 31, consult your H-R representative, or write Hewitt-Robins, Stamford, Conn.

Ask for bulletin 2-14

HEWITT-ROBINS

CONVEYOR BELTING AND IDLERS . . . POWER TRANSMISSION DRIVES
INDUSTRIAL HOSE . . . VIBRATING CONVEYORS, SCREENS & SHAKEOUTS

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NOW! Adjustable Diameter and Open
THOMSON BALL BUSHINGS

The BALL Bearing for all your LINEAR MOTIONS

LOW FRICTION • ZERO SHAKE OR PLAY
ELIMINATE BINDING AND CHATTER
SOLVE SLIDING LUBRICATION PROBLEMS
LONG LIFE • LASTING ALIGNMENT

The various types cover a shaft diameter range of ⅛" to 4". Small sizes available in Stainless Steel. Write for literature and name of our representative in your city.

THOMSON INDUSTRIES, Inc.
Dept. C, MANHASSET, NEW YORK

Also manufacturers of NYLINED Bearings ... Sleeve Bearings of DuPont NYLON

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NEW "3-IN-1" TRACTOR

For faster order picking operations!

Remote-controlled for 3-way operation

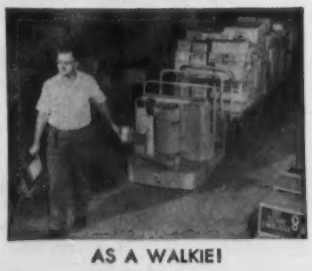
Now, remote radio control brings new ease, speed and economy to order picking operations. The order selector can walk, ride or operate his tractor train by remote control. He can remain in one spot, select his orders quickly and efficiently, and then operate the easy radio control system to move the tractor train only when necessary.

Because of its all-transistorized construction

AS A RIDER!

the sturdy transmitter is scarcely larger than a package of cigarettes. It can be clipped to operator's belt, carried, or pocketed. The compact receiver attaches to a protected position on the tractor behind the operator.

The pivoted handle permits the tractor to convert quickly



AS A WALKIE!

into a walkie for maneuvering in crowded areas. The tractor speed combined with flexibility of use, enables one UTE Transporter and one operator to quickly and efficiently accomplish his job.

Learn more about the ways the UTE Transporter remote-control Tractor can save you time and money. Manufactured by Automatic Transportation Company, 61 West 87th St., Dept. B-0, Chicago 20, Ill.

▲ For more details circle NED-634 B on enclosed inquiry slip ▲

8-MM MOVIE CAMERA

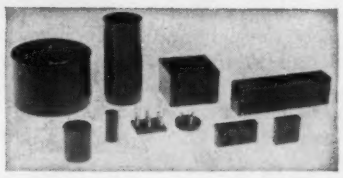
has electric eye, "zoom" type lens

Ability to "zoom" smoothly from long shots to close-ups and to shift instantly from normal to slow motion speeds and back again without interrupting shooting is built into the Zoomatic 8-mm electric eye movie camera. Lens opening is continuously and automatically kept at the correct opening despite changes in light or film speed. Indoor subjects as close as 6 ft can be photographed while using the entire range of the zoom lens, including telephoto. Normal shots as close as 3 ft 1 in. and wide angle shots as close as 2 ft 1 in. can be made. Camera's viewfinder is coupled with the lens. The f/1.8 Varamat zoom lens is coated to screen out ultraviolet rays. Companion Model 410 camera has electric eye, speed shifting features, and a three-lens turret. • **Bell & Howell Co.**, 7100 McCormick Rd., Chicago 45, Ill.

▲ For more details circle NED-635 B on enclosed inquiry slip ▲

ELECTRONIC COMPONENT CASES

molded of epoxy materials

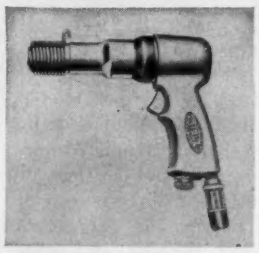


Round, square, and rectangular shapes and sizes are available in broad line of electronic component cases, molded of dimensionally stable epoxy materials. The stocked cases serve as molds for potting electronic components. Epoxy has high dielectric characteristics, low moisture absorption, good mechanical strength, and excellent chemical resistance. • **Plastronic Engineering Co.**, 721 Boston Post Rd., Marlborough, Mass.

▲ For more details circle NED-636 B on enclosed inquiry slip ▲

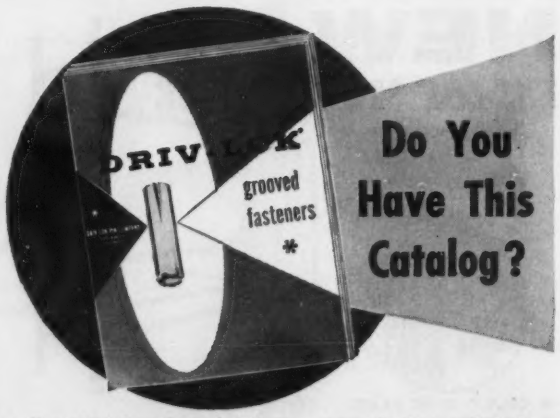
AIR CHISEL

shears, cuts, drives, scrapes



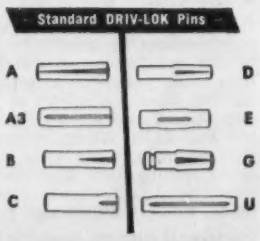
Sioux Slugger air driven chisel has a one-piece barrel without parts to become misaligned or wear, and a cast iron handle to withstand rough usage. Tool will shear and cut metal, cut and drive rivets, scrape metal, break welds, punch sheet metal holes, split nuts, shear bolts, pull pins, drive bearing races, press bearings, and crimp sheet metal. Price is $85. A kit with seven attachments in a metal case is available. • **Albertson & Co.**, Sioux City, Iowa.

▲ For more details circle NED-637 B on enclosed inquiry slip ▲



Contains Complete details on grooved pins and studs
YOURS FOR THE ASKING!

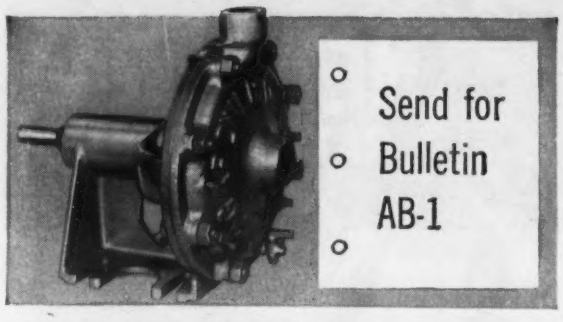
Write for your copy of the DRIV-LOK catalog today. Contains factual data in concise, easy to use form. Illustrated with typical applications that may help solve a fastening problem for you. Sent without obligation, of course.



DRIV-LOK SALES CORPORATION
717 Park Avenue • Sycamore, Illinois

▲ For more details circle NED-638 B on enclosed inquiry slip ▲

Reverse Rotation without alteration



Abundant circulating cooling water—regardless of rotation—to air compressors, diesel engines or other water-cooled machines. That's Gardner-Denver's CAY 1-in. reversible centrifugal pump. It requires *no alteration* whatsoever *for reversing* rotation, but *operates efficiently in either direction . . . can be installed in any position* on a machine. No need to turn pump around when moving from one side of the machine to the other. Simplified piping design requires minimum of fittings. Mechanical seal eliminates packing problems. CAY handles up to 65 gpm.

EQUIPMENT TODAY FOR THE CHALLENGE OF TOMORROW

Gardner-Denver Company, Quincy, Illinois
In Canada: Gardner-Denver Company (Canada), Ltd., 14 Curity Avenue, Toronto 16, Ontario

GARDNER-DENVER

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POTDEVIN Label Paster

Time savings of 30% and more with unskilled operators makes your POTDEVIN Label Paster quickly pay for itself. No adjustments required for varied shaped labels. Accurate control of adhesive minimizes waste and assures clean, neat labeling.

Available in 6", 8½", 12" and 18" widths.

POTDEVIN MACHINE CO.
273 North Street • Teterboro, N. J.
Designers and manufacturers of equipment for Bag Making, Printing, Coating, Laminating, Gluing and Labeling

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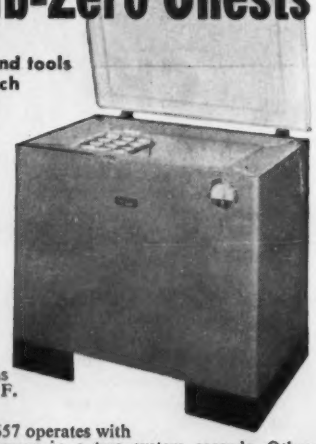
REVCO Sub-Zero Chests

- for shrink fits
- for seasoning gauges and tools
- for testing • for research
- for processing to −140°



Model RSZ503 Rivet Cooler (shown) equipped with 90 rivet canisters, temperatures to −30° F. 110V, 60 cycle, single phase.

Model SZH153 with temperatures to −95° F. 110V; 60 cycle, single phase.

Model SZH653, larger capacity, temperatures to −85° F. 110V, 60 cycle, single phase.

Model SZHC657. Same capacity as SZH653 but attains temperature as low as −140° F. 220V, 60 cycle, single phase.

Refrigeration: Model SZHC657 operates with 3 Tecumseh hermetic compressors in a two system cascade. Other Sub-Zeros use 2 hermetics in a two stage system. Rivet Cooler operates with single hermetic unit. All models equipped with efficient fan-cooled condensers—no liquid coolant required. *Write Today for Full Specifications and Prices.*

Description	Model	Cu.Ft.	Temp. Range Rm. 70°	Temp. Range Rm. 110°	Outside Dim. L	Outside Dim. W	Outside Dim. H	Inside Dim. L	Inside Dim. W	Inside Dim. H
Sub-Zero	SZH153	1.5	−95° F.	−85° F.	42"	28"	42¾"	23"	9"	12½"
Sub-Zero	SZH653	6.5	−85° F.	−75° F.	60"	28"	42¼"	47"	15"	16"
Sub-Zero	SZHC657	6.5	−140° F.	−125° F.	60"	28"	42¾"	47"	15"	16"
Rivet Cooler	RSZ503	5.0	−30° F.	−20° F.	42"	28"	41"	30"	16"	18"

REVCO, Inc.
Setting Trends in Refrigeration since 1938 Deerfield, Michigan

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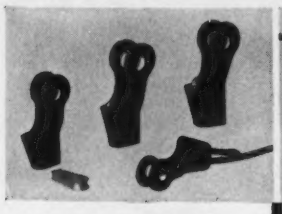
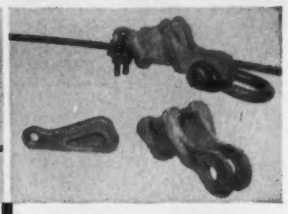
WIRE ROPE FITTINGS





OPEN WEDGE SOCKETS

the harder the pull the tighter the hold

OPEN WEDGE SOCKETS—especially easy to attach. Simply bend cable around wedge, insert in socket and pull tight. Wedge can be quickly removed with light hammer and drift pin. Sizes for ⅜" to 2" rope. Orders for special sizes receive prompt attention.

CONTINUOUS CABLE CLAMPS

the easy way to attach a load to a line

CONTINUOUS CABLE CLAMPS—Quickly attach or remove a load from any place on a continuous cable. Used for car pulling, barge moving, rigging or any job where a load must be connected to the line.

Manufactured for rope sizes from ⅜ to 1¼ inches.

ASK FOR BULLETINS 164 AND CC-2

SAUERMAN BROS., Inc.

646 S. 28th AVENUE, BELLWOOD, ILLINOIS • Linden 4-4892

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CFC

STAINLESS STEEL

Fulflo FILTERS

REG. U.S. PAT. OFF.

for pressures up to 750 psi

SS7.5C Fulflo Filter

- For pneumatic and hydraulic applications.
- Maximum flow rate — 650 scfm on air and gases; 7 gpm on liquids.
- Rugged one-piece shell of Type 316L stainless steel.
- Patented Honeycomb Filter Tubes for *depth* filtration.

Send for new catalog on CFC Filters for all types of liquids and gases. Write Dep't NE

CFC

Filter out high costs with CFC Filters

COMMERCIAL FILTERS CORPORATION

Fulflo Honan-Crane Delpark Michiana

MELROSE 76, MASSACHUSETTS

PLANTS IN MELROSE, MASSACHUSETTS AND LEBANON, INDIANA

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FREE!

If heat processing is your job— don't miss this "idea-packed" booklet

Never before have so many sound basic ideas on heat processing been available under one cover.

Written by engineering experts at Michigan Oven Company, it offers practical suggestions on what to look for in an oven regardless of your application.

Why not send for "The Handbook of Oven Facts"? It may be the most important decision you make today! Or, if you have a specific application, a MOCO representative will be pleased to call.

MICHIGAN OVEN COMPANY

419 Brainard, Detroit 1, Michigan

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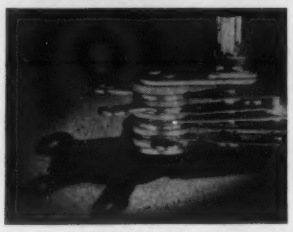
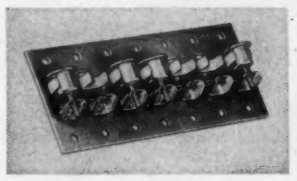
ADJUSTABLE THERMOSTAT
also serves as on-off control



When the adjustment control of the Type ADP double-pole thermostat is turned to its lowest position, both poles of the input lines are broken. With the adjustment knob in a temperature control position, it operates the same as any NorStat Type A thermostat. Open blade type unit can be used in fans, heaters, and other equipment as a combination thermostat and manual on-off switch. • **Norwalk Thermostat Co.**, 52 Woodlawn Ave., Norwalk, Ohio.

▲ For more details circle NED-645 B on enclosed inquiry slip ▲

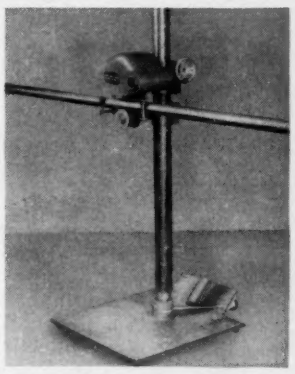
DIODE MOUNTING CLIPS
hold 0.245 to 0.270 in. OD diodes



Installation and replacement of top-hat diodes or rectifiers are simplified with use of Atlee spring-tempered beryllium copper mounting clips. Circuit contact is made by integral lug passing through mounting surface for connection to printed circuit leads, or for solder connection. The Wyre clip of the pair holds standard soldering lead of diode with an edge grip in a contoured slot. Accommodating top-hat diodes or rectifiers from 0.245 to 0.270 OD, clip can be secured by eyelets or rivets. They are available separately, in bulk, or mounted as shown. • **Atlee Corp.**, 47 Prospect St., Woburn, Mass.

▲ For more details circle NED-646 B on enclosed inquiry slip ▲

BAR & TUBE PRINTER
operates at speeds to 250 fpm



Metal or plastic bars and tubes with diameters from ¼ to 11-in. OD are offset-printed without changing guide wheels by the Economy model printer. A continuous message in characters from 1/6 to ¾ in. high is printed at speeds up to 250 fpm. Printing wheel has a face width of 1 in., a circumference of 12 in., and uses either premolded rubber dies or changeable rubber type. It is operated by friction of the moving tube or bar. A portable pedestal mount is adjustable for height of the marker head. Unit is easily moved by tilting onto rollers on the base. • **Pannier Corp.**, 301 Pannier Bldg., Pittsburgh 12, Pa.

▲ For more details circle NED-647 B on enclosed inquiry slip ▲

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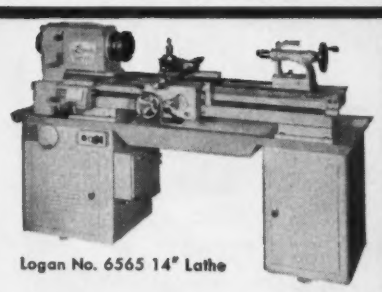
its specifications add up to high production capacity

Logan **14" Lathe**



Logan No. 6565 14" Lathe

- Spindle speeds to 2000 rpm.
- 1½" Levermatic collet chuck capacity
- 14⅝" swing over bed
- 9" swing over saddle cross slide
- 40" between centers

Logan's generous combination of high-quality features means greater reliability, accuracy, and longer life.

- **Oversize spindle—1⅝" bore—four super-precision ball bearings—built-in preload**
- **Variable-speed drive—change speed with work turning—without shifting belts**
- **Warp-free lathe bed—high, strong walls braced by oversize ribs withstand heaviest stresses; two V-ways, two flat ways flame-hardened, precision-ground**

These and many more reasons prove Logan's greater working capacity. The specifications tell the story. Write for complete information.

LOGAN ENGINEERING CO.
Dept. Q-260, 4901 Lawrence Ave., Chicago 30, Ill.

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SEE THE COMPLETE LINE!

HILD

TRANSFERABLE HEAD

VACUUM CLEANERS

FOR USE ON YOUR OWN 55 GALLON DRUM

WRITE FOR INFORMATION

HILD FLOOR MACHINE CO. INC. NED-69

1217 W. Washington Blvd., Chicago 7

Manufacturers of Floor Machines and Industrial Vacuum Cleaners Since 1927

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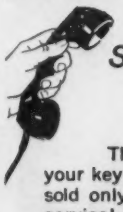
- color code enamels
- marking enamels
- ASA machinery gray enamels
- wrinkle finishes
- high-heat aluminum
- zinc chromate primer
- gray primer-surfacer

CHECK LIST

- open gear and wire rope lubricant
- light oil lubricant
- penetrating oil
- dry graphite lubricant
- all-purpose silicone lubricant
- clear plastic
- silicone mold release
- red insulating varnish-enamel
- battery terminal protector
- blue layout fluid
- layout fluid remover
- anti-rust spray
- electric motor degreaser
- engine degreaser
- Jet-Pak self-powered spray gun

Which of these self-spraying products can you use?

CHECK THE LIST—THEN PHONE YOUR DISTRIBUTOR!



Single brand—single source

ONE CALL—THAT'S ALL!

The first **complete** line of industrial aerosols—your key to "push-button maintenance." Stocked and sold only by industrial distributors to give you quick service! Phone your distributor today for free handbook of 47 different maintenance and production aids in self-spraying containers—the better, faster, safer, cleaner, easier way to do a hundred jobs! Made by the oldest and leading custom-loader of aerosol specialties. If your distributor cannot supply you, write **Industrial Supply Division, Sprayon Products, Inc., 2063 East 65th Street, Cleveland 3, Ohio.**

Sprayon AEROSOLS FOR INDUSTRY

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Send for Your FREE COPY

Money saving ideas on Fabricated Wire Cloth Parts. Large or small wire cloth inserts or covers in all metals and meshes to your specifications. Engineering assistance on design problems, especially on assembly details.

NEWARK WIRE CLOTH COMPANY
351 VERONA AVENUE • NEWARK 4, NEW JERSEY

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NO THREADING
NO WELDING
UP TO 30% SAVING
on safety railings built with
NU-RAIL® FITTINGS

There's one easy way to build pipe railings—build them with Nu-Rail Slip-On Structural Fittings. Simply slip the fittings on the pipe, tighten the set-screws with a hex wrench. That's all there is to it, and you've saved time and construction costs, too.

With five basic fittings you can make up combinations for any kind of safety rails or guards. They're made of high-strength aluminum—you can use them outdoors or indoors. Pipe threading and welding are eliminated, pipe cutting is reduced to a minimum.

Leading distributors handle these aluminum fittings, both NU-RAIL and the lighter duty SPEED-RAIL Fittings. Write for descriptive Bulletin 30-E.

Build them with
NU-RAIL OR SPEED-RAIL FITTINGS
• STADIUM ENCLOSURES
• CROWD CONTROL RAILINGS
• AMUSEMENT PARK BARRIERS
• SWIMMING POOL FENCES
• SAFETY GUARDS

THE HOLLAENDER MANUFACTURING CO., 3841 Spring Grove Ave., Cincinnati 23, Ohio

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whatever the job...

PERMACEL STRAP-IT
TRADEMARK
Pressure Sensitive Tape Dispenser

PERMACEL *New Brunswick, N.J.*
TAPES • ELECTRICAL INSULATING MATERIALS • ADHESIVES

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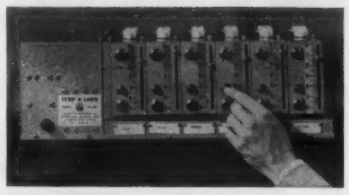
EQUIPMENT OVERHEAT ALARM
with 0 to 6-hr time delay



When temperatures in ovens, chemical vats, and similar production equipment reach an overheat condition, the Temp-O-Larm will trigger an audible and/or visible alarm. Each annunciator has an alarm time delay that can be set from 0 to 6 hr. Only when dangerous heat has been experienced for a period longer than setting does the device sound a warning. Annunciator drives for monitoring up to 6 and 12 production units are available. The 115 v ac equipment will also warn of low temperatures. • **Walter Kidde & Co.**, 675 Main St., Belleville 9, N. J.

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DISPOSABLE SUIT
is low-cost protective type

Lightweight plastic suit designed to protect workers in industrial operations involving exposure to chemicals, water, and excess dust and dirt is an all-purpose, disposable type. It resists acids and alkalies, fire, oil, and grease, and is waterproof. The light yellow PVC slip-over jacket and trousers fit comfortably over ordinary work clothing. Elastic tape seals at neck, wrists, and ankles. Price is $3.95. • **Safety First Supply Co.**, 421 Magee St., Pittsburgh 19, Pa.

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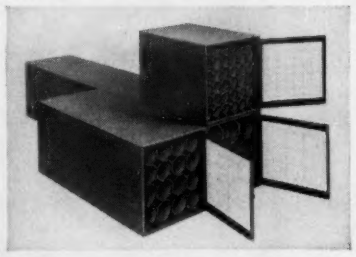
ROLL FILES
line expanded to 24 sizes



Line of Staktube roll files for rolled prints, charts, maps, and drawings has been enlarged to 24 sizes, comprising three tube diameters in eight tube lengths. Sizes include a new 16-tube, 3⅜-in. ID size, in addition to the 36-tube, 2¼-in. ID and the 9-tube, 4⅜-in. ID sizes. Lengths range from 18 to 60 in. Files measure 15 5/16 in. square and are made of heavy gage steel with baked gray enamel finish. They can be placed on-end, or stacked and interlocked to any height. Hinged door is full opening for access to material. • **Stacor Equipment Co.**, 295 Emmet St., Newark 5, N. J.

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SAVE TIME
WITH KAMLOK QUICK COUPLERS

CUT YOUR MAINTENANCE COSTS
Save production time by replacing hose and pipe connections with Kamlok Quick Couplers. Used wherever hose and pipe connections are periodically uncoupled. Fast . . . Safe . . .Sure. No tools needed. Just fit together and pull the cam arms down. Lock securely in place. Leakproof gasket cannot fall out.

KAMLOKS are available from stock in bronze, aluminum, stainless steel, monel and semi-steel from ½" through 6" sizes. 39 different styles to choose from. Specials to fit your needs. All Kamloks 100% master gauged for complete interchangeability. Get full details.

Send for Handbook F-10R
KAM-2

OPW-JORDAN
6013 WIEHE ROAD
CINCINNATI 13, OHIO

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TOUGH BUYERS DEMAND
REZNOR downflow heaters for high-ceiling applications

Where cranes, machinery, or inventory stacks require abnormally high placement of the heater, the tough buyer insists on a Reznor Downflow Heater. The Downflow projects heat to the area where it's needed, even from a height of 40 feet! Simple to install, too.

Available with aluminized or stainless steel heating elements, gas modulation, adjustable louvers and electric ignition. Write for catalog.

REZNOR Manufacturing Co., Dept. 41F, Mercer, Pa.
H-9121

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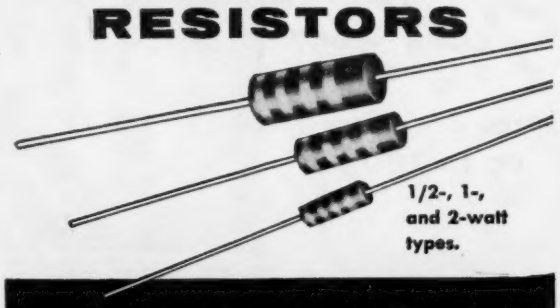
STACKPOLE
Coldite 70+®
FIXED COMPOSITION
RESISTORS



1/2-, 1-, and 2-watt types.

★ Designed throughout for MIL-R-11 and other critical specifications. Unsurpassed stability.
★ Brighter phenolic bodies . . . baked-on colors.
★ Exclusive, solder-coated leads for fastest soldering—by dip or iron.
★ Stocked by many leading parts distributors.

ELECTRONIC COMPONENTS DIVISION
STACKPOLE CARBON CO., St. Marys, Pa.

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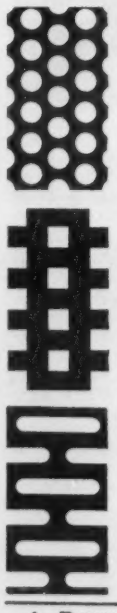
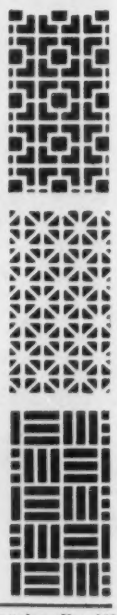
PERFORATED
METALS - PLASTICS - FIBRE BOARD



Make your selection from a large stock of standard perforating dies.

Round - Square - Slot
Perforated Grilles
Decorative Metals
Complete Decorative Panels
Screens for heavy road work
Screens for pulp and paper
Or let us design to your specifications.



National Perforating Corporation
42 Parker Street
Clinton, Massachusetts

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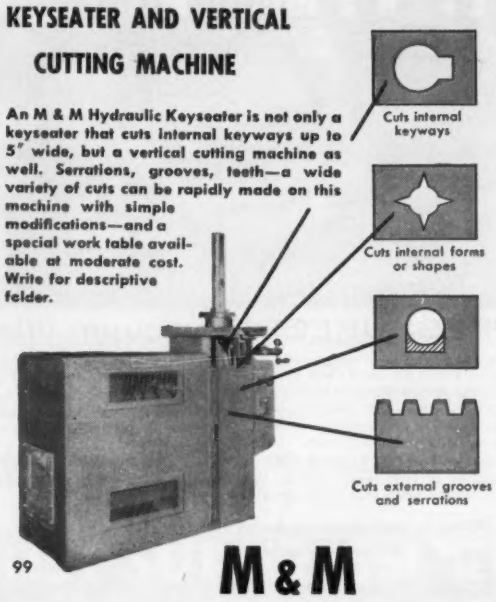
TRIPLE THE USEFULNESS OF YOUR M&M KEYSEATER AND VERTICAL CUTTING MACHINE

An M & M Hydraulic Keyseater is not only a keyseater that cuts internal keyways up to 5" wide, but a vertical cutting machine as well. Serrations, grooves, teeth—a wide variety of cuts can be rapidly made on this machine with simple modifications—and a special work table available at moderate cost. Write for descriptive folder.



99

M&M

KEYSEATERS AND VERTICAL CUTTING MACHINES

MITTS & MERRILL • 1000 So. Water St. • SAGINAW, MICH.

For more details circle NED-661 B on enclosed inquiry slip

LW DIVIDING HEADS
Accurate, Heavy Duty

Ball bearing thrust on worm shaft and rear end of spindle.
Headstock spindle has threaded nose.
Large tapered bearing adjustable for end play. Head tilts past 90°.
Worm wheel and alloy stress-proof steel worm cuts to close limits for accuracy.
Worm wheel and worm shaft can be fully disengaged.
Complete with three index plates for dividing all numbers to 50 and even numbers to 100 except 96T. Index chart shows all divisions obtainable to 380. Specify left (illustrated) or right hand model.
SWIVEL BASE, RISING BLOCKS AND DIRECT INDEXING MODELS AVAILABLE ON ALL SIZES.

MODEL SD 6½" Swing. Spindle threaded 1½"-8. ⅝" table slot tongues. 36 lbs. $175.00

MODEL BP 11" Swing for plain milling machines. Spindle threaded 2¼"-10. ⅝" table slot tongues. 140 lbs. $295.00

MODEL AU 11" Swing. Fully universal for complete indexing and spiral cutting. Spindle threaded 2¼"-10. ⅝" table slot tongues. 190 lbs. $460.00

SEE YOUR INDUSTRIAL SUPPLY DISTRIBUTOR OR ORDER DIRECT GIVING DISTRIBUTOR'S NAME

America's Largest Builders of Dividing Heads

LW CHUCK COMPANY
51 SO. ST. CLAIR ST.
TOLEDO 4, OHIO

LATHE CHUCKS · MAGNETIC CHUCKS · ADJUSTO-QUICK VISE · MILLING MACHINE VISES

For more details circle NED-662 B on enclosed inquiry slip

Borg-Warner Industrial Cranes

Quality at a price you can afford...

$9900.00 For a 7½-Ton, 60 Ft. Span, 3 Motor, Top-Running Double Girder Industrial Service Crane

QUALITY *and* PRICE determine value. A price like this for superior Borg-Warner construction and performance means you get top value for your crane dollars. You'll benefit three ways by installing a B-W top-running, motor driven, double girder crane like this:

- More overhead storage space than by fork truck stacking.
- Aisles and work areas cleared of floor type handling equipment.
- Low initial cost, low operating cost, low upkeep.

The crane illustrated is a typical 60 ft. span, 7½ ton capacity installation. For shorter spans, smaller capacities and lighter duty, Borg-Warner Industrial Cranes are available at even lower prices.

Industrial Cranes · BW Borg-Warner

Design it better ... Make it better.

Find Your Nearest Distributor Under CRANES In The Yellow Pages

Distributors in all principal industrial cities

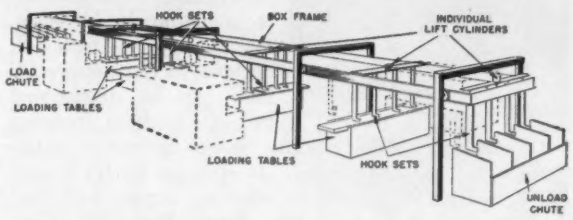
Borg-Warner® INDUSTRIAL CRANES

1584 S. PAULINA STREET, CHICAGO 8, ILLINOIS, Export Sales: Borg-Warner International, 36 South Wabash Ave., Chicago 3, Illinois

For more details circle NED-663 B on enclosed inquiry slip

PARTS TRANSFER SYSTEM automatically shuttles large parts from machine to machine

Axle shafts, tanks, and similar large parts are automatically transferred from machine to machine for welding, assembly, or machining by this overhead



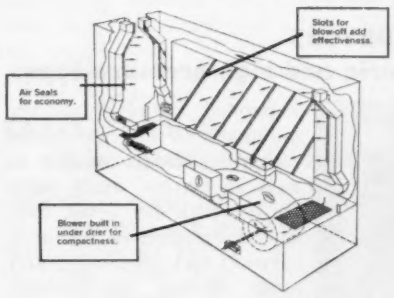
transfer system. Basic section is a single, cylinder-powered channel iron box frame supported above the production line by several arch-type structures. Frame carries hooks which pick up parts, raise them, transfer them to succeeding work station, and lower them, all in unison as the entire box frame moves.

Hook-sets are raised and lowered by individual lift cylinders. Frame returns to at-rest position and cycle repeats upon signal from slowest machine operation. Parts placed on loading tables are held with either centering wheels or V-clamps, depending upon operation. When part is in position on table, entire table top moves forward to insert it into machine. Parts of various lengths and diameters can be handled. • **Michigan Tool Co.**, Gear-O-Mation Div., 7171 E. McNichols Rd., Detroit 12, Mich.

For more details circle NED-664 B on enclosed inquiry slip

DRY-OFF OVENS are monorail, conveyorized units

A range of 24 standardized, monorail, conveyorized dry-off ovens and patch-type drying units is available for integrating with company's line of power spray washing, phosphatizing, and painting equipment. Ovens have both blower and heating units located in the bottom for compactness. Protected high pressure steam and gas - fired heaters are available on all models. Ovens are constructed of interlocking panels, with 2-in. glass wool insulation between inner and outer 20-gage steel panels. Mechanical heat seals confine heated air in the oven where it is recirculated by centrifugal fans. Free draining parts are dried in less than 3 min. • **Ramco Equipment Corp.**, 1379 Lafayette Ave., New York 59, N. Y.



For more details circle NED-665 B on enclosed inquiry slip

Bin GATES! All Types All Sizes ...For All Materials

Webster DUPLEX Gate

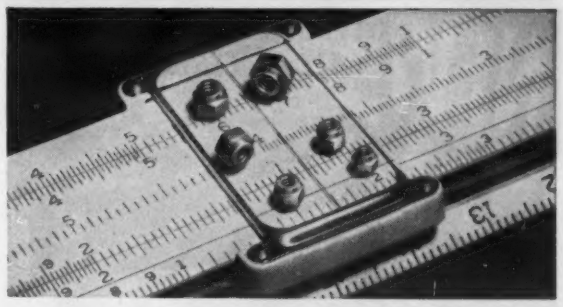
Motor-operated, this positive-acting gate can be supplied with remote control. Regularly made of steel, the Webster DUPLEX Gate can also be furnished with cast iron housing and gate leaves—or cast side gate leaf panels with renewable steel gate bottom plates.

Webster also manufactures a complete line of Drip and Sift Proof Gates; Dust Proof Rack and Pinion Gates; Simplex, Undercut and Slide Gates; and Rotary Cutoff Valves for all industries.

Write us—outlining your requirements.

Webster MANUFACTURING, INC.
DEPT. NE-20, TIFFIN, OHIO
BULK MATERIALS HANDLING EQUIPMENT
Offices in all Principal Cities
SINCE 1876

For more details circle NED-666 B on enclosed inquiry slip



Microsize FLEXLOCs save weight and space, increase mechanical reliability of your miniature assemblies. Reusable, they are unaffected by moisture, dryness, oil or grease.

Microsize FLEXLOC locknuts protect mechanical integrity of small assemblies

- Hold tight despite impact, shock, vibration
- Require no auxiliary locking elements
- One-piece, all-metal design . . . every thread works, including those in locking section
- Serve as locknuts or stopnuts
- Sizes #0-80 through #4-40 in alloy steel, stainless, aluminum, brass

See your authorized industrial distributor. Or write SPS—manufacturer of precision threaded fasteners and allied products in many metals.

INDUSTRIAL FASTENER Division SPS
JENKINTOWN 24, PENNSYLVANIA

For more details circle NED-667 B on enclosed inquiry slip

GPE Controls

WEB and STRIP GUIDES

Save TIME...MONEY...MATERIAL!

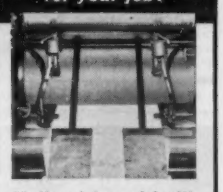
Send for NEW Catalog EG-84

Photos and diagrams representing thousands of installations; complete details on world's broadest line of web and strip guides.

- Laminate without trim!
- Speed up presses while you keep accurate side register!
- Slit without side trim!
- High-speed textile tentering with minimum selvage.
- Track conveyor belts, abrasive belts, etc., up to 5,000 feet per minute.
- Winds 100-ton steel coils evenly to protect edges.
- Web edge position, porosity, opacity, or reflectance sensed by air or photoelectric heads.
- Non-clog air sensing head (patented) never touches web, works perfectly with linty, dusty, or abrasive webs.
- Hydraulic actuation for unlimited power and speed, high frequency response.
- Engineered by specialists in industrial automatic controls.

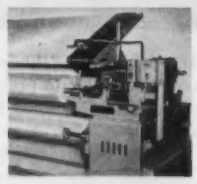
GPE Controls, Inc.
258 E. Ontario St., Chicago 11, Ill.

43 MODELS ...one just right for your job!



Medium-duty model with air sensing, positioning knives on rubber calender.

Photoelectric reflected light head following line on printed carton stock to eliminate slitting.



Light-duty unit with air sensing, applied to textile machinery.

GPE Controls | A GENERAL PRECISION COMPANY | formerly Askania Regulator Company

A subsidiary of General Precision Equipment Corporation

For more details circle NED-668 B on enclosed inquiry slip

NEW ...LOW COST, AUTOMATIC *ALL-ELECTRIC* EYELETTER

ETCO Model 103

A HIGH SPEED PRODUCTION MACHINE FEATURING:

1. For all makes of eyelets, from smallest to 3/8" diameter.
2. Extra large throat depth.
3. Easily interchangeable tracks.
4. $385. complete.
5. Electrical clutch release.
6. Simplified eyelet release.
7. Fast, continuous feeding.
8. Heavy cast frame, attractive finish.

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for Printed Circuits, Component Assemblies, Cloth & Leather Assemblies

EYELET TOOL COMPANY, INC.
236 BROADWAY
CAMBRIDGE, MASSACHUSETTS

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• Centerless Ground to extreme accuracy. Special new-type Equipment, assures concentric chamfered or formed ends—no cut-off burrs.

Dowel—Straight—Countersunk—Angle and Spherical Ends
.020" to .1875" Diam.
.125" to 2" Length

Precise Specifications Accurately met. If requested on order, a surface analysis tape, showing surface in micro-inch measurements, will be furnished. Tape magnifies 39,370 times.

Small orders or volume production to your exact requirements and material specifications.

Quality Precision Work!
Prompt Deliveries!
Prices you will like!
SEND US PRINTS FOR QUOTATION

COMMERCIAL CENTERLESS GRINDING COMPANY
6605 CEDAR AVE., CLEVELAND 3, OHIO
Phone: ENdicott 1-3412

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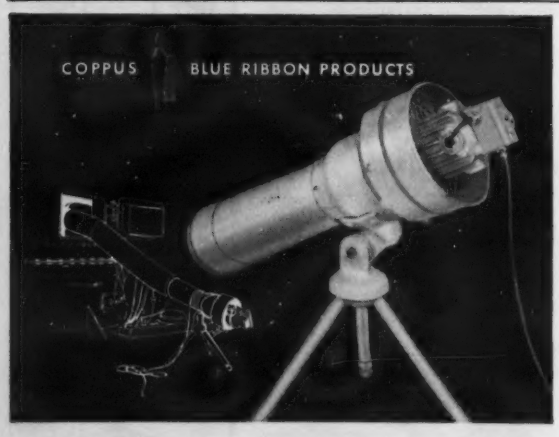


COPPUS "Blue Ribbon" Vano Ventilators are portable and easily adaptable to practically any "fresh-air" requirement in industry. Mail coupon below for facts.

COPPUS ENGINEERING CORP.
402 Park Avenue, Worcester 10, Mass.

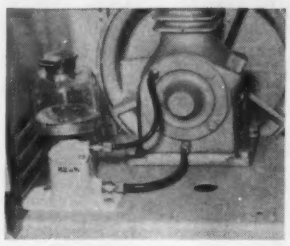
- ☐ in tanks, tank cars
- ☐ in underground manholes
- ☐ for exhausting welding fumes
- ☐ on boiler repair jobs
- ☐ for general man cooling
- ☐ to stir up stagnant air wherever men are working or material is drying

Name .....
Company .....
Address .....
City .....

COPPUS BLOWERS

▲ For more details circle NED-671 B on enclosed inquiry slip ▲

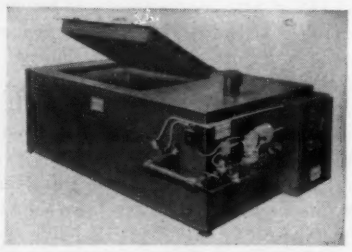
AUTOMATIC OILER KIT
for small size air compressors



Low oil failure of air compressors used on air dryers and dehydrators is minimized with installation of this automatic oiler, available in kit form. With the oiler installed, oil level in the compressor base can be determined by sight without stopping the compressor. Oiler fits any tank or cabinet mounted Quincy X-2 air compressor. It also fits Model R and RC dehydrators, as well as other air dryers with X-2 compressors. • **S & G Mfg. Corp.**, Box 1309, New Orleans 10, La.

▲ For more details circle NED-672 B on enclosed inquiry slip ▲

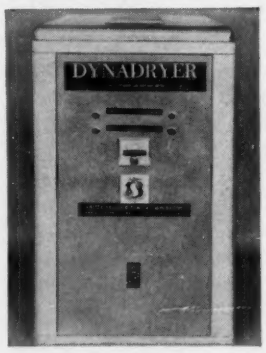
HEAT-TREATING OVEN
operates at up to 950° F



This top-loading heat-treating oven will operate continuously at temperatures up to 950° F for preheating, stress relieving, aging, air drawing, and solution heat treating. Model shown has a 5 x 3½ x 1½-ft working space and a heavy duty floor grill designed for 5000-lb load. High air circulation rate, automatic temperature controls, and electronic combustion safeguards are featured. Gas fired or electrically heated models are available. • **Young Brothers Co.**, 1831 Columbus Rd., Cleveland 13, Ohio.

▲ For more details circle NED-673 B on enclosed inquiry slip ▲

AIR & GAS DRYERS
atmospheric and high pressure types

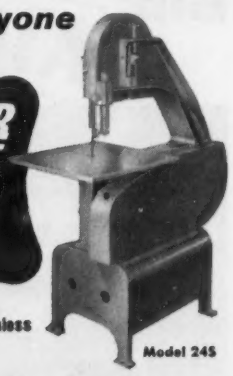


Expanded line of Dynadryer automatic air and gas dryers comprises budget models as well as custom made units for use with dry boxes, controlled atmosphere furnaces, chemical processing, and other diverse applications. Dryers provide a continuous supply of clean, dry, oil-free air or other gases with dew-points below −100° F. Units are offered for atmospheric or high pressure operation and have reverse purge systems, 5-micron dust filtration, stainless steel tanks, and Inconel sheath heaters. • **United States Dynamics Corp.**, Industrial Equipment Div., 10 Dedham St., Newton Highlands 61, Mass.

▲ For more details circle NED-674 B on enclosed inquiry slip ▲

Favorite with Everyone in the Shop!

LOCKFORMER BAND SAW



Model 24S

Pays for itself on the first few jobs
Cuts almost everything, including stainless
Compact, Rugged, Fast, for Continuous Heavy-Duty Cutting

One of the most versatile pieces of equipment you can buy! The Lockformer Band Saw cuts forgings, bars, stacked bronze, brass, copper, aluminum and steel sheets, plates, stainless, wood and plastics. Adjustable 100, 600 and 3000 fpm. blade speeds assure high speed, accurate cutting on any job. V-Belt drive with sheaves eliminates power-robbing speed reducers . . . equals or surpasses production of costlier saws with ratings to 1½ hp. Three-wheel Model 24S has full 24" throat; Model 14SM has two-wheel design with 13½" throat for smaller jobs. Both models are simple, rugged, compact, with friction-free, slip-proof final chain drive. Both have Neoprene seals, life-time lubrication. Cemented carbide guides give perfect blade control.

ALL THIS FOR ONLY $695.00 (MODEL 24S) OR $445.00 (MODEL 14SM)*
**Prices subject to change without notice.*

WRITE FOR LATEST BULLETIN TODAY!

manufactured by
THE LOCKFORMER CO.
4615 West Roosevelt Rd., Dept. N, Chicago 50, Ill.
In Canada: Brown Boggs Foundry & Machine Co., Ltd., Hamilton, Ontario

LOCKFORMER TIME SAVING, MONEY MAKING EQUIPMENT

▲ For more details circle NED-675 B on enclosed inquiry slip ▲

NEW FROM WHITING

PRESSUREGRIP vacuum lifter

Versatile Whiting Pressuregrip vacuum systems pick up even rough textures, like diamond tread plate, plywood, or concrete. Special narrow grippers are available to lift rails, beams, or even pipe.

UNDER-THE-HOOK PRESSUREGRIP UNITS (shown above) speed overhead crane operation—eliminate time-consuming chain rigging—cut materials handling costs.

CUSTOM PRESSUREGRIP VACUUM FEEDING EQUIPMENT can be designed to your requirements. Whiting engineers are at your service to automate many repetitive operations.

WRITE TODAY FOR NEW BULLETIN V-100
"Whiting Pressuregrip"

Whiting Corporation, 15660 Lathrop Avenue, Harvey, Illinois

WHITING

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* Package with Confidence

New Mystik Brand Super Flextron Tape No. 6497 Has Bi-Directional Strength

An unique packaging tape. Super strength bi-directional filaments are an integral part of the product—providing equal strength in both directions. The tape is water and moisture proof. Excellent quick stick properties and it stays stuck.

TYPICAL APPLICATIONS: Strapping and holding heavy machinery parts—sealing heavy-content packages for shipment—holding loose parts in place for assembly of refrigerators and stoves—heavy banding on corrugated, fiberboard and wooden cartons—strapping tubes, rods and lumber—banding groups of cartons on pallets. Frequently replaces steel strapping.

(Conforms to Government Specifications PPP-T-97-Type 11)

Write for full information on Mystik Super Flextron No. 6497 and other Mystik brand packaging tapes.

Mystik Adhesive Products, Inc.
2635 N. Kildare Ave.,
Chicago 39, Illinois

MYSTIK BRAND TAPES SELF-STIK

PROTECTIVE COVERING MATERIALS—TAPES THAT TALK

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FREE BULLETIN ON MATERIAL-LEVEL INDICATING

Handy Illustrated Fuller Data Guide Describes Bin and Silo Control-Indicator

. . . tells how you can have complete control and/or indication of the high or low level of dry pulverized or granular materials under 1" in size passing into or out of bins, silos and bunkers.

The dust-tight Fuller-Material-Level Indicator offers exact audible-visual indication and control despite any momentary surge or settling of material.

For the complete story, and your free copy of this useful and informative guide, write today for Bulletin I-5 B 1357 I-7

FULLER COMPANY
154 Bridge Street
Catasauqua, Pa.

Fuller

SUBSIDIARY OF GENERAL AMERICAN TRANSPORTATION CORPORATION
Offices in Principal Cities Throughout the World.

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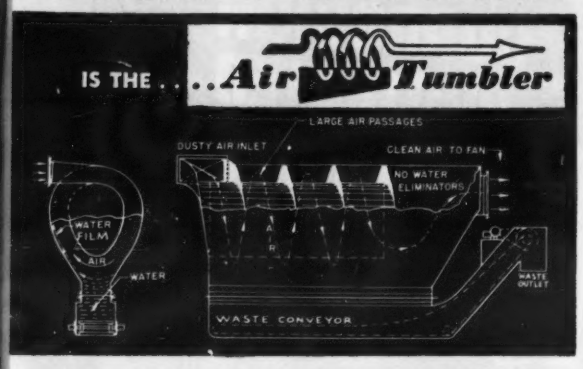
The MASTER of DUST in INDUSTRY



SIMPLE—DEPENDABLE—NO FIRE HAZARD HIGH EFFICIENCY—CONSTANT CAPACITY LOW HUMIDIFICATION—LOW OPERATING COST

More than one million CFM in ONE plant

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DUST SUPPRESSION & ENGINEERING CO.

P. O. BOX 67 • LAKE ORION, MICHIGAN

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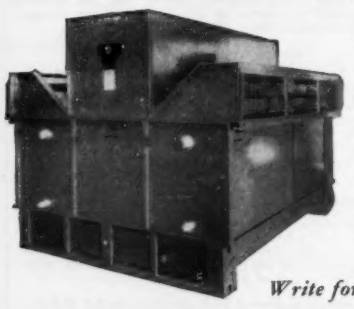
NIAGARA Aero

SECTIONAL HEAT EXCHANGER

A Self-Contained Cooling System

● Niagara *Aero* Heat Exchanger offers a completely self-contained system independent of any considerable water supply, replacing both shell-and-tube cooler and cooling tower. Water consumption is only the evaporation and the small amount passed as blowdown to prevent hardness build up. Net saving is 95% of water used in cooling from external sources. You solve the problem of water supply and disposal; you save much additional expense and equipment in water handling, piping, pumping.



Casing panels are removable with full access to all parts and interior piping for easy inspection. Sections are shipped as flat panels with saving in freight charges.

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NIAGARA BLOWER COMPANY

Dept. ED-12, 405 Lexington Ave., New York 17, N. Y.

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FITS ANY NUT

369-M-B set

3/8 to 1" Square
3/8 to 1-5/16" Hex

Snap-on MAINTENANCE WRENCH SET

Spinners, extensions, ratchets, stud remover, 5 series of sockets — 69 pieces — assembled for the mechanic who wants one kit of 1/2" square drive wrenches to handle any nut-turning job up to 1-5/16".

There's a fully stocked SNAP-ON branch in most major industrial centers. Check your phone book or write us for complete wrench and hand tool catalog.

SNAP-ON TOOLS CORPORATION

8110-B 28TH AVENUE • KENOSHA, WISCONSIN

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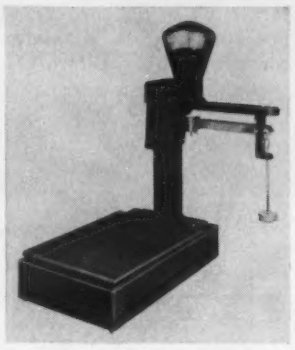
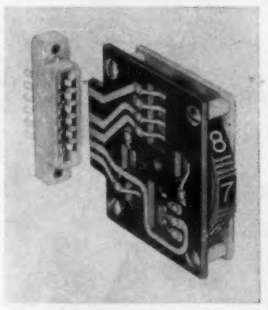
OVER-UNDER SCALE
has 13¾ x 18½-in. platform area



Platform area measuring 13¾ x 18½ in. adapts Model 1844 Detecto-Gram scale to operations involving bulk commodities and products. Over-under head indicates a fraction of an ounce error for packing, crating, and check-weighing uses. Scale adapts to cutoff arrangements for control of material feeders. It has total capacity of 300 lb and stands 32½ in. high. ● **Detecto Scales, Inc.**, 540 Park Ave., Brooklyn 5, N. Y.

▲ For more details circle NED-682 B on enclosed inquiry slip ▲

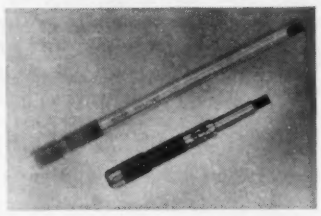
BINARY SWITCH
requires only ½ in. of panel space



Only one large easily-read number at a time is exposed through the bezel window of the series TSB modular 10-position binary thumbwheel switch. Unit requires only ½ in. of panel space. The removable wafer type switch plugs into fixed printed circuit receptacles, and the fixed wafer type switch has soldering terminals. Three or four-bit binary and complementary outputs can be furnished. Modular construction permits horizontal or vertical stacking. The ¼-in. thumbwheel is offered in black or colors. Frames of various lengths take up to 16 switches. ● **Chicago Dynamic Industries, Inc.**, Precision Products Div., 1725 Diversey Blvd., Chicago 14, Ill.

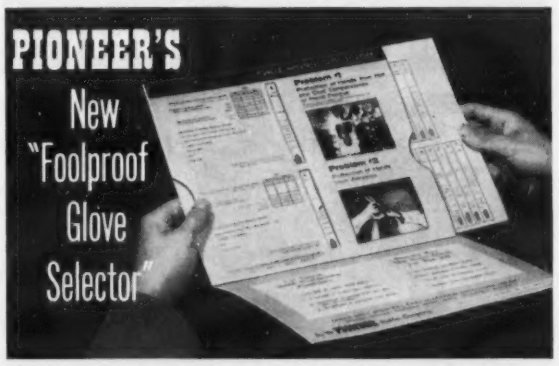
▲ For more details circle NED-683 B on enclosed inquiry slip ▲

TAP EXTENSION
5-in. model holds 0 to ½-in. taps



Difficult internal tapping operations are facilitated through use of the Short Series Type 707 tap extension. Designed for machine tapping in castings, forgings, dies, and other parts, the 5-in. long extension is offered in three series holding tap sizes from No. 0 to ½ in. The ⅜-in. maximum diameter shanks fit the collets or chucks of most tapping devices. Hand-operated clamping mechanism speeds replacement of dull or broken taps. ● **Ritmar Corp.**, 183 New York Ave., Huntington, N. Y.

▲ For more details circle NED-684 B on enclosed inquiry slip ▲



ELIMINATES COSTLY ERRORS!

Helps you solve many hand protection problems in seconds — whether the problem involves chemicals, abrasion resistance, worker fatigue, extreme hot or cold temperatures, or products that must be protected from hands!

Send For PIONEER'S *FREE* "Foolproof Glove Selector"

The PIONEER Rubber Company
234 Tiffin Road, Willard, Ohio (S)

Please send me:
☐ New "Foolproof Glove Selector" by Pioneer
☐ 1959-60 Pioneer Industrial Glove Catalog
☐ 17" x 22" Full Line Glove Wall Chart

Firm _____
Address _____
City _____ Zone ___ State _____
Requested by _____

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TRANSFER FUEL FASTER!

- Pumps on forward and back strokes
- Delivers up to 20 gpm with up to 20-foot lift
- Vacuum breaker prevents siphonage
- No foot valve
- Models for farms, garages, factories, construction jobs
- Available with automatic nozzle

JOHN WOOD COMPANY

BENNETT PUMP DIVISION • MUSKEGON, MICHIGAN
IN CANADA: JOHN WOOD COMPANY LIMITED
Toronto • Montreal • Winnipeg • Vancouver

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3 TOP VALUES From Among 80 BIG JOE Lift Truck Models

1
"the PEDALIFT 21"
$199.00 complete
1000 lb. capacity
54 in. lifting height

2
"the 299"
$299.00 complete
1000 lb. capacity
57 in. lifting height
Battery Operated

3
"the CHALLENGER"
$397.50 complete
1500 lb. capacity
57 in. lifting height
Battery Operated

Hydraulic Handling for *EVERY* Department

BIG JOE Manufacturing Company
Vernon Blvd.
Wisconsin Dells, Wisconsin

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After years... if you do have to "repack"
JUST REPLACE 2 SELF-CONTAINED UNITS
IF IT'S A HUNT PDQ AIR VALVE

Here is a valve one man can completely repack in a minute on the line. You just slide 2 self-contained units into place. One is the poppet-sleeve assembly. The other is the plug-in solenoid pilot assembly.

You stock only 2 spare units . . . not several dozen parts. Write us today.

A. V. Ney, Sales Manager

HUNT VALVE COMPANY • SALEM, OHIO, U.S.A.

- ✓ Accessibility
- ✓ Simplicity
- Speed and Capacity
- Price and Quality

The Hunt PDQ Valve tops them all in every class.

Next month . . . the SPEED and CAPACITY story.

HUNT Quick-As-Wink AIR & HYDRAULIC CONTROL VALVES

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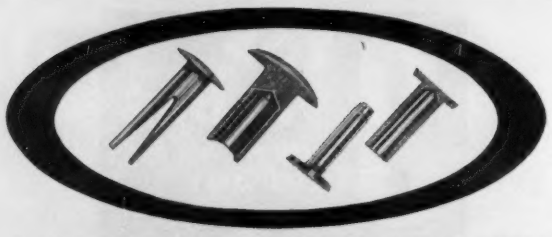
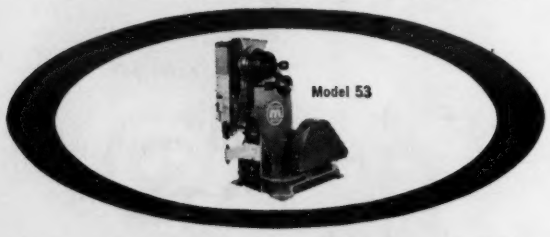


COST-CUTTING PRODUCTION TEAM!
. . . the two-way answer to assembly problems



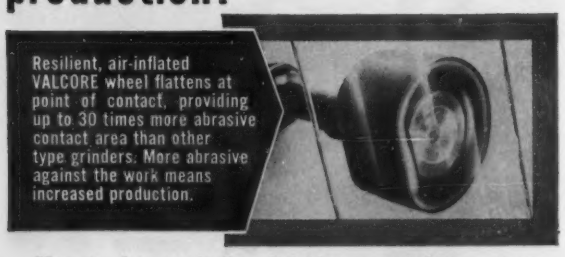
Here's a combination that cuts production costs and gets rid of assembly problems in a hurry—Milford Tubular Rivets made to high quality standards to assure a better finished product for you . . . Milford automatic rivet-setting machines that can be quickly adapted to your particular fastening needs. Write for more information on how you can put this team to work.

THE MILFORD RIVET & MACHINE CO.

MILFORD, CONN. • HATBORO, PENN. • ELYRIA, OHIO • AURORA, ILL. • NORWALK, CALIF.

▲ For more details circle NED-689 B on enclosed inquiry slip ▲

3000% more Grinding/Finishing/Polishing production!



Resilient, air-inflated VALCORE wheel flattens at point of contact, providing up to 30 times more abrasive contact area than other type grinders. More abrasive against the work means increased production.

You can boost grinding, finishing or polishing output up to 3000% on flat work, 600-700% on contours, by backing up your coated abrasives with VALCORE inflated wheels. Resilient contact drum puts more abrasive against the work . . . absolutely prevents band slippage . . . eliminates undercuts . . . avoids chatter and bounce . . . produces straight-pattern finish. Use VALCORE on portable tools or benchstands for all abrasive operations from moderate stock removal to fine micro-finishing.

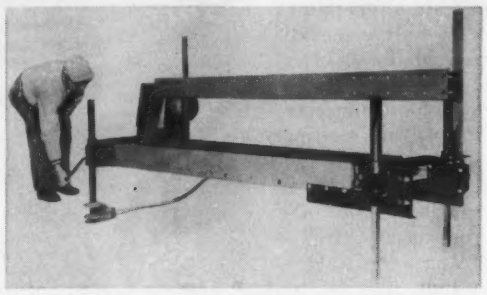
Send NOW for Free Catalogs on NU-MATIC VALCORE Wheels and FLEXCORE Expanding Wheels

NU-MATIC GRINDERS, INC.
875 East 140th Street • Cleveland 10, Ohio
DETROIT: UNiversity 3-3376 • NEW YORK: BArclay 7-0196
CHICAGO: TUxedo 9-4300
CANADIAN DISTRIBUTOR: Wm. Orlick, Ltd., Hamilton, Ontario

▲ For more details circle NED-690 B on enclosed inquiry slip ▲

FLAT BELT CONVEYOR adjusts 12 in. in height

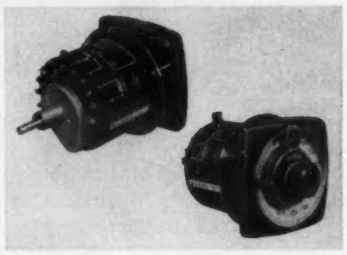
Flexibility in bagging operations is afforded by this flat belt conveyor, an adaptation of the Model GA-11 bag conveyor which allows changes in length from 7 to



12 ft. Unit stands 8 in. high, but can be jacked to any position within a 12-in. range. Conveyor is used to move all sizes of packages or filled bags from weighing and packing equipment through sewing or other secondary operations. Belt rides on flat metal skid plates and thus has a perfectly flat surface. • **Richardson Scale Co.**, Clifton, N. J.

▲ For more details circle NED-691 B on enclosed inquiry slip ▲

REVOLUTION COUNTER-CONTROL 11 ranges to 240,000 revolutions



Shaft revolutions up to 1000 rpm are counted by the Series 307 Atcotrol, a miniaturized revolution counter requiring only 1¼ oz-in. torque for electrical control of a machine or system. Repeatability is ±0.0025 of dial range. Energized by external momentary or sustained switch contact, the counter indicates number of revolutions of a machine drive shaft until a predetermined dial setting is reached, then trips its heavy duty single-pole double-throw contacts. Device is used for measurement of textiles, tapes, hose, and wire lengths; product counting; fluid metering; material and conveyor feeding; and armature winding. Alternating and direct current units are available in 11 dial ranges from 0-12 to 0-240,000 revolutions. • **Automatic Timing & Controls, Inc.**, King of Prussia, Pa.

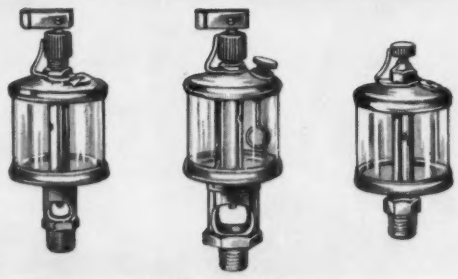
▲ For more details circle NED-692 B on enclosed inquiry slip ▲

Horizontal Mixers & Blenders

Young Machinery Co.—Horizontal mixers described in 12-page Bulletin F-1058 are applicable to wide range of free-flowing products. Mixing capacities range from a few pounds to several thousand pounds per hour, with single units made in all sizes from 1 up to 500 cu ft. Booklet covers dimensions, end and agitator details, drive arrangements, and other information.

▲ For more details circle NED-693 B on enclosed inquiry slip ▲

Immediate Delivery!



Glass Body Oil Cups.

You can fill all your Oil Cup requirements from Swift's complete stocks. Swift Glass Body Oil Cups have polished brass finishes and tough, heat- and stain-resistant Pyrex glasses. Standard sizes are always available for immediate delivery.

Sight Feed and Plain Glass Oil Cups. For gravity-feed oiling of bearings and other points where no back pressure exists. Spring-loaded slide opening on lid keeps dust and dirt from bowl.

Gas Engine Lubricators. For gravity-feed of oil against pressure in gas engines, blowers, vacuum pumps, low pressure air pumps.

SWIFT *Glass Division*
SWIFT LUBRICATOR COMPANY, INC.
5 Glass St., Elmira, N.Y.

▲ For more details circle NED-694 B on enclosed inquiry slip ▲

CORROSION-PROTECTED by TYGON *Hot Spray* PAINT

Here's long-term corrosion protection, and . . . important savings in time, labor and materials.

Tygon ATD* Hot Spray Vinyl Paint forms a tough, impermeable vinyl film that is thick, dense and free from imperfections. With a single pass of a spray gun you can build a coating five times thicker than by cold spray.

Labor is cut up to 30% and more . . . thinners are eliminated . . . wet overspray is eliminated.

All this plus the time-proven corrosion resistance for which Tygon is famous.

133-E

Right now . . . Write now for Bulletin ATD-34

PLASTICS & SYNTHETICS DIVISION
U. S. STONEWARE
AKRON 9, OHIO

ADHESION • THICKNESS • DENSITY

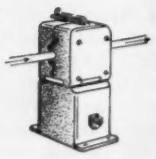
▲ For more details circle NED-695 B on enclosed inquiry slip ▲

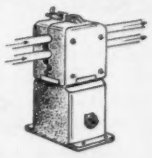
PUMPING IDEAS

POSSIBLE ONLY with a SIGMAMOTOR PUMP

MOVE CORROSIVE LIQUIDS

Material being pumped never comes in contact with pump mechanism. Wave-like motion of steel fingers forces material through Tygon tubing. By changing size of tubing, capacity can be increased or decreased. Pump housing opens for removal and insertion of tubing.



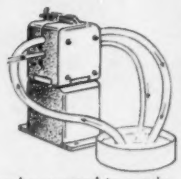


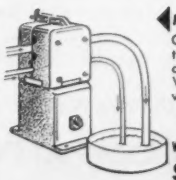
PUMP 2 OR 3 DIFFERENT LIQUIDS SIMULTANEOUSLY

Some models will accommodate up to four tubes so that four different liquids can be passed through the pump at one time without danger of contamination.

FEED AND MIX

One or more tubes can be feeding material to a mix while a larger tube is recirculating the liquid to produce agitation and thorough mixing. Viscous materials can be pumped without danger of gumming or plugging. Remove tube and pump is clean.





METER ADDITIVES

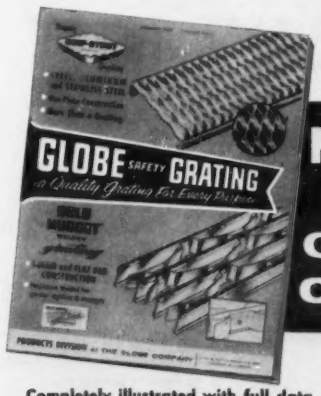
One or more additives can be pumped to a solution in the exact amount desired by selecting the correct size of tubing and regulating pump speed. Various controls can be incorporated to close valves ahead of pump.

Capacities from 0.5 cc. per min. to 4.5 G.P.M.

Write for complete information on sizes and capacities.

SIGMAMOTOR, INC.
33 N. Main Street • Middleport, N. Y.

▲ For more details circle NED-696 B on enclosed inquiry slip ▲



FREE!
New Globe SAFETY GRATING CATALOG

Completely illustrated with full data, load charts and specifications on these two superior open steel floor gratings:

★ SAFETY GRIP-STRUT GRATING
Of one piece construction in Steel, Aluminum and Stainless Steel.

★ GOLD NUGGET WELDED GRATING
I-Beam and Flat Bar construction—projection welded for greater rigidity and strength.

For architects, consulting engineers, plant superintendents, maintenance engineers, safety engineers, contractors, builders—for every safety purpose . . . fire proof, slip proof, maximum strength with minimum weight—cool in summer, warm in winter, self cleaning. A grating for any purpose, any load, any budget.

Write for your free copy TODAY.

112

PRODUCTS DIVISION THE GLOBE COMPANY
4002 S. Princeton Ave., Chicago 9, Illinois

▲ For more details circle NED-697 B on enclosed inquiry slip ▲

FEATURES FOR FASTER PRODUCTION

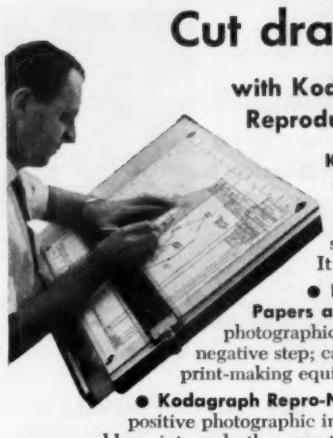
EATON RELIANCE DIVISION MANUFACTURING COMPANY
509 CHARLES AVENUE • MASSILLON, OHIO

SALES OFFICES: NEW YORK • CLEVELAND • DETROIT
CHICAGO • ST. LOUIS • SAN FRANCISCO • LOS ANGELES

▲ For more details circle **NED-698 B** on enclosed inquiry slip ▲

Cut drafting costs

with Kodagraph Reproduction Materials!



Kodagraph Reproduction Materials help eliminate retracing . . . produce better shop prints . . . simplify print production. It will pay you to use them.

- **Kodagraph Autopositive Papers and Film** produce positive photographic intermediates without a negative step; can be exposed in standard print-making equipment.
- **Kodagraph Repro-Negative Paper** gives you positive photographic intermediates directly from blueprints and other negatives.
- **Kodagraph Contact Papers** produce outstanding negatives in contact photocopy printers.
- **Kodagraph Projection Papers** give quality enlargements from microfilm or negatives.

Write today for free booklet

Kodagraph Reproduction Materials

EASTMAN KODAK COMPANY
Graphic Reproduction Sales Div.
Rochester 4, N. Y.

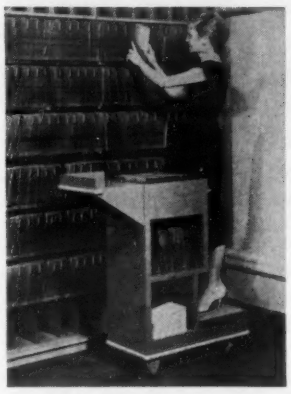
▲ For more details circle **NED-699 B** on enclosed inquiry slip ▲

THERMOCOUPLE DATA INDICATOR
directly indicates millivolt values

Graphic type Thermocouple Data Indicator gives millivolt values for iron and copper/Constantan, Chromel/Alumel, platinum 13-per cent rhodium/platinum, and platinum 10-per cent rhodium/platinum thermocouples for all temperatures within their range. This slide rule calculator indicates directly for readings based on a zero degree reference temperature, or corrected to any ambient temperature. Other data are included. Price is $2. • **West Instrument Corp.**, 4363 W. Montrose Ave., Chicago 41, Ill.

▲ For more details circle **NED-701 B** on enclosed inquiry slip ▲

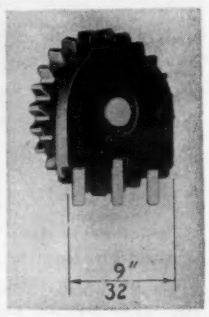
MOBILE WORK STATION
with step stool, aids filing work



Using the Mobile Shelf filing truck with step-stool platform, an operator can file and pull correspondence from high filing cabinets in one operation. A bin at the top of the truck holds either letter or legal-size Flexi-files. Removed folder can be placed in compartment below bin with three vertical dividers. Another compartment below that is used for blank folders, guides, out-guides, etc. Although caster mounted, platform grips floor securely under operator's weight. • **Sperry Rand Corp.**, Remington Rand Div., 315 Park Ave. S., New York 10, N. Y.

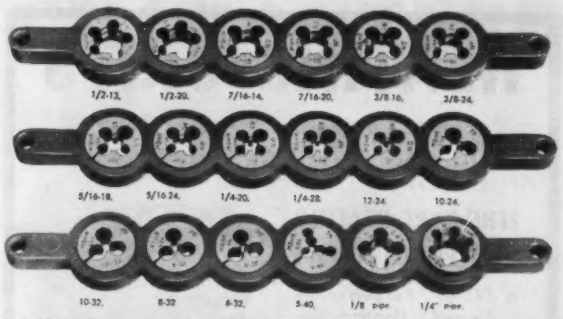
▲ For more details circle **NED-702 B** on enclosed inquiry slip ▲

VARIABLE RESISTOR
miniature 500 ohm-10 megohm unit



A resistance range of 500 ohms through 10 megohms, power rating of 1/10 w at 40° C, and 250-degree angle of rotation are offered by Series M250 micro-miniature composition variable resistor. Unit has 9/32-in. diameter and is designed for tiny transistor hearing aids, miniaturized communication and test equipment, industrial, and micro-modular applications. It is furnished with cementable or solder-type mounting and is priced as low as $2.75 each in lots of 5000 and over. • **CTS of Asheville, Inc.**, Skyland, N. C.

▲ For more details circle **NED-703 B** on enclosed inquiry slip ▲



THREADING TOOL CUTS 18 SIZES

½" TO ⅛" U.S.S. & S.A.E. ⅛" & ¼" PIPE

PRECISION IS BUILT INTO THIS TOOL REQUIRING LESS SKILL TO USE.

Cuts threads in minutes that otherwise take hours, as each die is set ready for immediate use (Exclusive feature). Will cut class 2-fit threads on *lathe, drill press, vise,* or as a *wrench.*

Gives shop better control of small tools. Reduces Pilferage. This maintenance tool will save you money in any shop. Will reduce parts inventory.

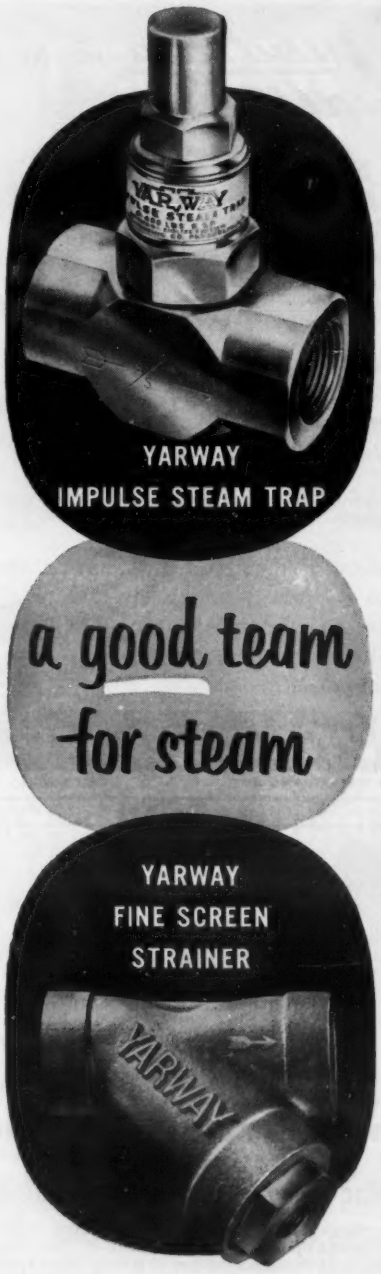
1-SET "MOHR THREADING TOOLS" **$39.00**

Three precision holders of high strength aluminum with 18 high grade adjustable dies. Sizes as shown above. All orders sent on 10 day approval basis.

Write for FREE information on the many time and money-saving applications of this new tool.

MOHR TOOL & MFG. CO., Box 63G Maywood, Ill.

▲ For more details circle **NED-704 B** on enclosed inquiry slip ▲



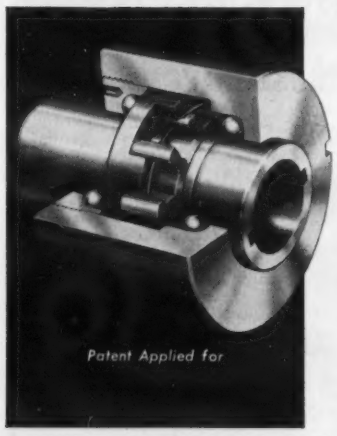
This Yarway team has scored high—over a million installed on all types of steam equipment. Stocked and sold by 270 Industrial Distributors. For free Steam Trap Book, write YARNALL-WARING CO., 131 Mermaid Ave., Philadelphia 18, Pa.

go YARWAY with confidence

▲ For more details circle **NED-705 B** on enclosed inquiry slip ▲

NEW! DUAL TORQUE-LOCKING & POSITIONING DEVICE

REV-LOK eliminates feedback torque, provides two-directional positioning, drive, over-running and backstopping

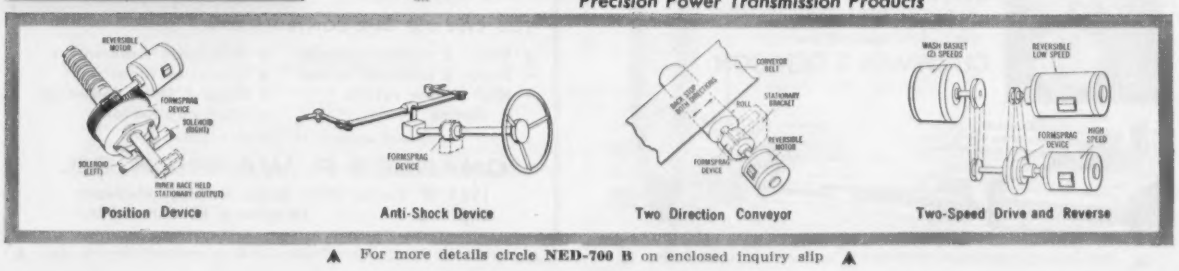


NOW! You can have positive and instantaneous stopping of feedback torque. With this new Formsprag device, simply mount the outer race in a fixed position and the full-complement of sprags will instantly stop feedback by wedging between output member and the outer race—feedback can never reach the input shaft. Yet, design permits transmission of driving torque in either direction from input to output shaft.

When used as a two-directional over-running clutch, output shaft is secured against rotation and clutch outer race is then the output member. Direction of drive, over-running and backstopping is determined by positioning of input shaft.

This versatile device is compact, has higher torque capacity for its size and weight and permits higher over-running speeds than any similar device. Its operation and features are explained in detail in a new technical paper, write for your copy.

FORMSPRAG COMPANY
23595 HOOVER ROAD • DEPT. 105 • WARREN (Detroit), MICHIGAN
Precision Power Transmission Products

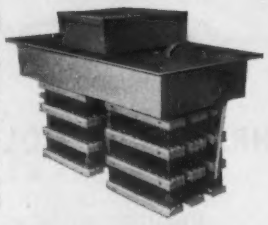


▲ For more details circle **NED-700 B** on enclosed inquiry slip ▲

HEATING UNITS

Better Controlled Heat at Lower Cost for Forced Air Installations

FFHP TYPE HEATING UNIT PLUG FEATURES



- TRENT "Folded-and-Formed" Heating Elements—greater radiating surface per square inch of cross section than any other electrical heating element!
- Maximum Frame Temperatures to 1350°F.!
- Velocities up to 4000 Ft./Min.!
- Watt Densities from 10 to 30 Watts per Sq. Inch!
- 120, 240, 480 or 600V—3 Phase or Single Phase!
- Wired, Mounted, Insulated complete with Terminal Box—Ready for Installation!

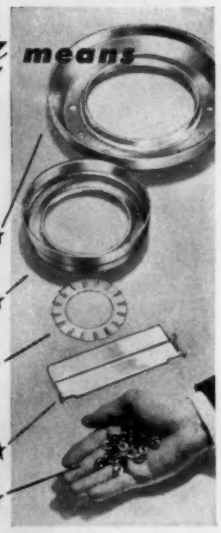
WRITE FOR BULLETIN 102T

TRENT INC.
Electrically Heated Industrial Equipment
251 LEVERINGTON AVE., PHILADELPHIA 27, PA.
In Canada Supreme Power Supplies Limited, Toronto 14

For more details circle NED-706 B on enclosed inquiry slip

Quadriga means *Quality*

METAL STAMPINGS



ITEM: 13" blank of 13 gauge steel...4 operations... approx. 2" depth of draw... O.D. tolerance ±.003".

ITEM: 9¾" blank of 14 gauge steel...5 operations... approx. 1¾" depth of draw... O.D. tolerance ±.003".

ITEM: 3¾" blank of 20 gauge brass...2 operations, (a) compound blank and pierce, (b) sheer form... consistent angle to vanes... close tolerances.

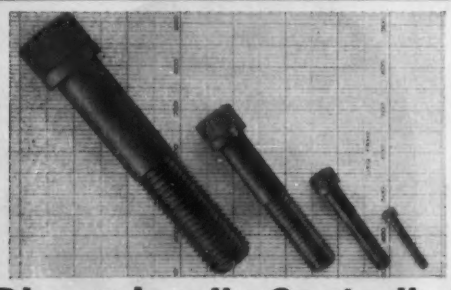
ITEM: 7½" wide strip of 20 gauge steel... 6 station progressive die... close tolerances.

ITEM: 1⅛" wide strip of 26 gauge steel... 4 station progressive die... close tolerances.

Any metal, medium to high quantity. Depth of draw to 3½ inches... press capacities to 150 tons. Send B/P or specs for estimate. Request catalog on your company letterhead.

THE *Quadriga* MFG. CO.
221 WEST GRAND AVE. • CHICAGO 10, ILL.

For more details circle NED-707 B on enclosed inquiry slip



Dimensionally Controlled Heat Treatment
gives Mac-it screws maximum holding power

End-use requirement is an important factor in determining heat treatment specifications for Mac-it alloy steel screws. While physical dimensions are a prime factor, the proper combination of strength, toughness, ductility and resistance to shock and vibration must be achieved if the correct torque-tension—or holding power—is to meet your exact requirements.

Mac-it metallurgists determine a heat treating cycle that takes into consideration material, size *and* end use. This combination-of-three results in Mac-it screws with maximum holding power.

Every step in the manufacture of Mac-it screws is followed with care by specialists who know what you want—and want you to have it. That's why Mac-its *hold tight in a tight place!*

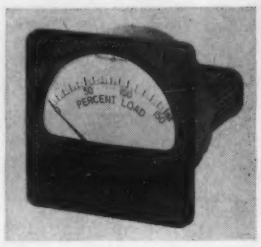
Mac-it

NEW SPECIFICATION SHEET listing new 1960 Series Socket Screw Industry Dimension Standards. Write for your *free* copy.
Mac-it Parts Co., Dept. 24, Lancaster, Pa.

MAC-IT ALLOY STEEL SCREWS

For more details circle NED-708 B on enclosed inquiry slip

MOTOR-LOAD INDICATOR
measures working component of load



Panel type C-371 motor-load indicator for use on either single or three-phase, 50 or 60-cycle induction motors measures the useful or working component of load current. Device gives accurate indication of light loads without sacrificing full-load indication. It is designed for use with a 5-amp current transformer. Meter is calibrated for 190-280 v, or for 350-550 v. A 4-in. square or 4½-in. round mounting flange is available. • **Westinghouse Electric Corp.**, Box 2099, Pittsburgh 30, Pa.

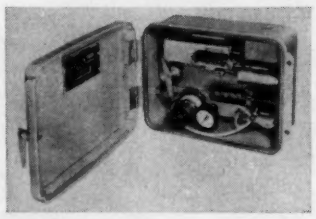
For more details circle NED-709 B on enclosed inquiry slip

AIR-HYDRAULIC FEED
for punching, clamping, other uses

Almost any sequence of operations can be performed automatically through the use of trigger valve actuators or solenoids and this air-hydraulic feed. Powered by the shop air supply, the hydraulic unit is suited for punching, clamping, riveting, shearing, or pressing of metals and plastics. It will not "bounce" at point of break-through or when load is released. Unit is offered with adjustable feed rate control on the specified power stroke and a fast return stroke, or with individual feed rate controls on both in and out strokes. Models with 2 and 3-in. bores have 0 to 375 and 0 to 225-ipm adjustable feed rates, 525 and 375-ipm return rates at 150 psi, and develop 0 to 470 and 0 to 1000 lb thrust, respectively. • **Superior Screw & Mfg. Co.**, Superior Controls, Commercial Road, Crystal Lake, Ill.

For more details circle NED-710 B on enclosed inquiry slip

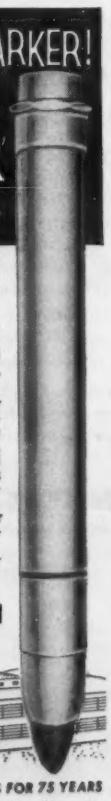
WEIGHING INTEGRATOR
for continuous belt weighers



Automatic integration (multiplication) of belt travel with belt loading to produce direct readout of the true weight being conveyed over a Conveyoflo conveyor belt weighing section is function of this pneumatic integrator-totalizer. The seven-digit totalizer is direct reading in pounds, tons, long tons, or other weight measures, requiring only the addition of ciphers for multiplication. Compact, dustproof unit can be used for operating remote totalizers. • **B-I-F Industries, Inc.**, 345 Harris Ave., Providence 1, R. I.

For more details circle NED-711 B on enclosed inquiry slip

WORLD'S NO.1 INDUSTRIAL MARKER!
King Size
FLO-MASTER
Felt Tip Pen



Marks BIG & BOLD on any surface!

Especially designed for heavy duty use at your Shipping Room Table—Factory Bench.

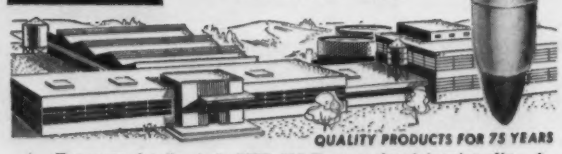
King Size Flo-master has a greater ink capacity, uses larger felt tips (up to 1" wide) than any other marking instrument. For use with: • Transparent marking inks, *all colors* • Paint-like, opaque pigments, *all colors* • Most industrial solvents

Dual-purpose, snap-on cap may be screwed to table or work bench as a convenient, permanently-secured receptacle. Installed as shown, receptacle is airtight, keeps felt tip always moist, clean and free from factory dust and dirt, always ready for instant-marking on metal, glass, wood, plastics, rubber, fabrics.

By the makers of the *pocket-size* Flo-master Felt Tip Pen—"The Standard of all Industry."

At your marking equipment supplier —or write to *Dept. NE-2*

CUSHMAN & DENISON
Carlstadt, New Jersey



QUALITY PRODUCTS FOR 75 YEARS

For more details circle NED-712 B on enclosed inquiry slip

the finest COATED FABRIC WORK GLOVE in the world

SURETY
SILVERTEX

To handle those hot, tough jobs nothing equals Surety Silvertex Gloves for longer wear and lower cost. Superior Silvertex coating reflects heat and affords better protection against most industrial chemicals than rubber and standard synthetics. Their curved finger design and wing thumb construction cuts wear and gives greater comfort. And they won't crack or peel—remaining soft and pliable for the life of the glove.

Available in gauntlet, knit wrist, band top and safety cuff styles, all in jumbo sizes and with or without ventilated backs. For a free test pair write on your letterhead, outlining your job requirements. We'll send them to you by return mail.

THE SURETY RUBBER COMPANY Dept. N
CARROLLTON, OHIO

In Canada: Safety Supply Co., Toronto

For more details circle NED-713 B on enclosed inquiry slip

Tractor-mounted M-B sweepers pay their way in year 'round use!

MULTIPLE USE

- ☆ Sweeps storage areas, plant aisles, driveways, yards, sidewalks, ramps, docks, parking lots... even grass cuttings.
- ☆ Handy for fast, low cost snow removal — up to 6" deep — from streets, sidewalks, parking lots.

JOB-PROVED FEATURES

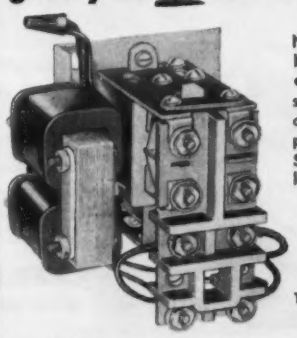
- ☆ Hydraulic model offers finger-touch control of two-way sweeper angle, brush lift and brush rotation. Brush raises 8" to clear obstructions; brooms available with 32" diameter, 60" and 72" lengths.
- ☆ Low cost mechanical unit has 30° sweeping angle, 5' and 6' brush lengths, sprinkler attachment available.

Easily removed or attached, M-B Sweepers fit most any popular tractor. See your tractor dealer now or write the M-B Corp., New Holstein, Wis., for complete information. Dept. NED

M-B CORPORATION NEW HOLSTEIN WIS.
REFUSE PACKERS LINE STRIPERS SWEEPERS
QUALITY MUNICIPAL & INDUSTRIAL EQUIPMENT SINCE 1907

For more details circle NED-714 B on enclosed inquiry slip

WARRICK Floatless Electrode Type
LIQUID LEVEL CONTROLS . . .
give you all these advantages!



No moving parts in the liquid • Easy to install • No adjustments necessary • Unaffected by acids or caustics • Unaffected by pressure or temperature • Standard 2&3 pole units listed by U/L

Write for 32-page Catalog which gives complete specifications

Two pole control shown at left

YOU CAN USE OUR CONTROLS FOR:

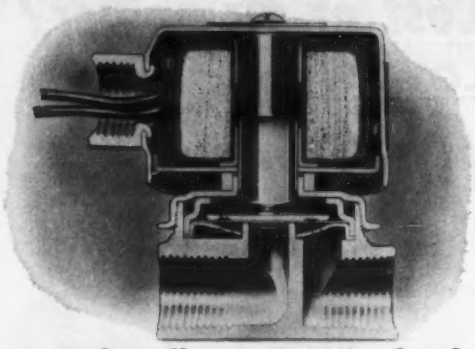
- Single & multiple pumps
- Motor & solenoid valves
- High & low cutoffs & alarms
- Sewage & waterworks
- Chemical Industries
- Food & Dairy Industries
- OEM applications

Special controls to custom requirements

CHARLES F. WARRICK CO.
1964 W. Eleven Mile Road, Berkley, Michigan
Dep't 6 Telephone JOrdan 4-6667

For more details circle NED-715 B on enclosed inquiry slip

unlimited applications!



• for flow control of water, air, low pressure steam, brines, light oils, gases.

JE **INDUSTRIAL SOLENOID VALVES**

5/16" to 1-1/2" Port Sizes—1/4" to 1-1/2" N.P.T. Connections
Write for information bulletin today.

Controls Division
JACKES-EVANS MANUFACTURING COMPANY
4427 Geraldine Ave., St. Louis 15, Mo.

▲ For more details circle **NED-716 B** on enclosed inquiry slip ▲

When New Molds Stick use IMS **SILICONE FLUID**

For Better Tool and Die Lubrication!

Shorten costly break-in periods! Simply spray on this perfect parting agent from self-dispensing aerosol! Useful too in PATTERN MAKING—releases patterns from master molds with minimum surface defects. Remember . . .

WHERE ANYTHING STICKS
it always pays to try
IMS SILICONE SPRAY

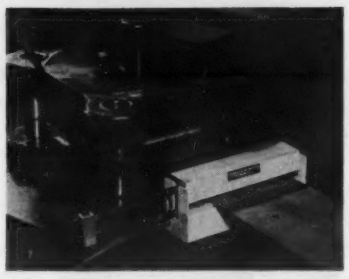
Get new tools into production sooner. Keep a few cans handy all the time. Order today!

DELIVERED PRICES
Single Can $2.00
Unbroken Dozen . . . $18.00
Unbroken Gross . . . $197.40

INJECTION MOLDERS SUPPLY CO.
3514 LEE ROAD WYoming 1-1424 CLEVELAND 20, OHIO

▲ For more details circle **NED-717 B** on enclosed inquiry slip ▲

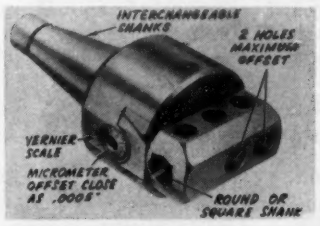
FLAT STOCK LUBRICATOR
wipes and oils both sides of stock



Small size of this flat stock lubricator permits its use next to press die, ahead of the feed. Gravity fed from any size storage can, lubricator has two full-floating, 1 1/8-in. wide felt wipers which apply a thin film of oil on both sides across the full stock width. Unit will oil random length pieces or coil stock, and it can be furnished in any width. • **Automation Services Inc.**, Port Crane, N. Y.

▲ For more details circle **NED-719 B** on enclosed inquiry slip ▲

OFFSET BORING HEADS
in 1/2, 3/4, and 1-in. bar capacities



Series 60 offset boring head with a long, stocky tool block is standard with 20-pitch diameter offset screw. A 40-pitch diameter offset screw, available at no extra cost, permits adjustment as close as 0.0005 in. per graduation on the screw dial. Horizontal hole is broached for holding both round and square tools. Of the two vertical mount holes, made possible by the longer tool block, one is centered in the block and the second is offset. Vernier on the body facilitates adjustment of micrometer offset screw. Head is available in three sizes with nominal 1/2, 3/4, and 1-in. bar capacities. • **Flynn Mfg. Co.**, 18301 Weaver, Detroit 28, Mich.

▲ For more details circle **NED-720 B** on enclosed inquiry slip ▲

FORK LIFT TRUCK
lifting capacity is 6000 lb

Built on a tractor chassis and equipped with a 6-cylinder engine, transmission, and differential, the Trac-Lift 60 fork lift truck has all forward speeds available in reverse. Lifting capacity is 6000 lb at 24-in. load center. Truck has power steering, hydraulic clutch and brakes, and lifts to 12 ft. Forward tilt is 4 degrees and backward tilt is 11 degrees. Available attachments include bucket, boom, hydraulic grabs, revolving equipment, rotary broom, snow blade, and LP gas equipment. • **Piper & Paine**, Nunda, N. Y.

▲ For more details circle **NED-721 B** on enclosed inquiry slip ▲

GUARANTEED

to give drip-tight leak-proof seal

greatest name in unions

DART

For over 55 years the firm guarantee back of each and every DART UNION sold has been — *"if one should leak through we will give you two"!* The record reveals that less than 1 in every 100,000 has proven to be faulty. The extra wide bronze to bronze seats, precision ground to a true ball joint, mounted in heavy malleable iron pipe ends and protected by an extra heavy union nut, make a drip-tight, leak-proof connection WITHOUT EXCESSIVE WRENCHING time and time again.

Guarantee positive tight connections and extra long service on your pipe lines by using the DART GUARANTEED UNION.

Yours on request: Descriptive brochure on Dart Unions and Union Fittings.

DART UNIONS *Products of* **DART UNION COMPANY PROVIDENCE 5, R. I.**

GENERAL SALES AGENT — THE **Fairbanks** COMPANY
393 LAFAYETTE STREET, NEW YORK 3, NEW YORK
BRANCHES: NEW YORK 3
PITTSBURGH 22 • BOSTON 10 • ROME, GEORGIA

▲ For more details circle **NED-722 B** on enclosed inquiry slip ▲

LERMER PLASTIC CONTAINERS

Exceptional printing makes the difference...

Helps make the sale!

- **Printed or decorated up to 4 colors on crystal clear, transparent or opaque colors**
- **Largest line of RIGID plastic containers**
- **1/5 the weight of glass—greatly reducing ever-increasing shipping and handling costs**
- **Lightweight and shatterproof—with rigid wall protection**
- **Economical—with customer re-use value**
- **Also made of new high density polyethylene—Poly-Opal*. Are chemically inert, stain resistant and have lower permeability to moisture and gases than conventional polyethylene.**

*T. M.

Write for full-color catalog, samples and prices.

LERMER PLASTICS, INC.
514 South Avenue
Garwood, New Jersey
PIONEERS AND SPECIALISTS IN PLASTIC CONTAINERS SINCE 1919

▲ For more details circle **NED-723 B** on enclosed inquiry slip ▲

NEW 2-SPEED SKIL RECIPRO SAW

cuts anything that can be sawed by hand ...easier, better, and 5 to 20 times faster!

New 2-speed feature obsoletes all other reciprocating saws. High-speed for fastest cuts in wood, compositions; low-speed for fast metal cuts with minimum blade wear. The right cutting speed for every job—no single compromise speed.

Plus these features:

- **Exclusive two-position shoe**—Doubles blade life. When one blade section wears out, another part can be used.
- **Off-center blade location**—Cuts close to corners, right or left, up or down, because blade has off-center location and can be reversed in blade clamp.
- **Only 3 main moving parts**—Simple, rugged design. All ball-bearings. Parts subject to wear are heat-treated steel.

SKIL

WRITE TODAY!

SKIL Corporation, Dept. NBT-20
5033 N. Elston Ave., Chicago 30, Ill.

Send me FREE brochure (No. F-14499) containing full details of the new SKIL Recipro Saw and illustrating the many ways it can be used.

Name _____
Company _____
Position _____
Street _____
City _____ *State* _____

▲ For more details circle **NED-718 B** on enclosed inquiry slip ▲

ONE *Extra* HOUR OF PRODUCTION DAILY

Many shops are getting an extra hour of production and more out of their machine tools by use of simple inexpensive overhead tramrail cranes that reduce the time to load and unload the machines. If you want greater machine productivity, check with Cleveland Tramrail.

GET THIS BOOK! BOOKLET No. 2008 Packed with valuable data.

CLEVELAND TRAMRAIL ENGINEERING AND APPLICATION DATA BOOK 2008

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
6608 East 285th St., Wickliffe, O.

CLEVELAND TRAMRAIL

▲ For more details circle NED-724 B on enclosed inquiry slip ▲

NEW AIRETOOL PNEUMATIC SCREWDRIVERS, NUTSETTERS

THE LATEST IDEAS IN PRODUCTION TOOLS. New design, new engineering, new performance. Both reversing and non-reversing models, straight and pistol-grip types. All are available in a choice of 4 operating speeds. It will pay you to get full information about these important new additions to the Airetool line. Write for Bulletin 68. Airetool Manufacturing Co., Springfield, Ohio.

BRANCH OFFICES: New York, Chicago, Tulsa, Philadelphia, Houston, Baton Rouge
REPRESENTATIVES in principal cities of U.S.A., Canada, Mexico, South America, England, Europe, Puerto Rico, Italy, Japan, Hawaii
EUROPEAN PLANT: Vlaardingen, The Netherlands
CANADIAN PLANT: Brantford, Ontario

AIRETOOL MANUFACTURING COMPANY SPRINGFIELD, OHIO

30 years experience in pneumatic tools

▲ For more details circle NED-725 B on enclosed inquiry slip ▲

WORN DANGEROUS STAIRS MADE NEW AGAIN IN ONE DAY—

. . . Just This Easy

Outwears Concrete, Stone or Marble

NEW SUPER STAIRMASTER Aluminum Safety Treads

Brand new "TRAFFIC-FLOW" design. Made of heavy-duty, non-corrosive aluminum alloy base. Filled with diamond hard abrasive. Non-slip under oil or grease. Easy to clean. Fits tightly, securely, over all types of stairs.

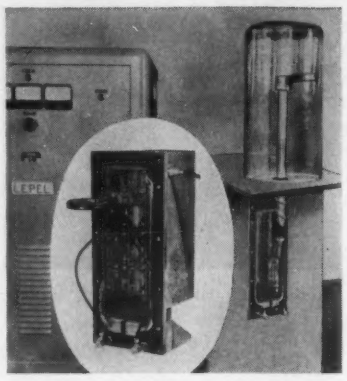
Guaranteed by Warranty Bond

FREE new bulletin shows how to repair stairs GET DETAILS

WOOSTER PRODUCTS INC. Dept. S-16
1000 Spruce St., Wooster, Ohio
NAME ____ TITLE ____
COMPANY ____
ADDRESS ____
CITY ____ STATE ____

▲ For more details circle NED-726 B on enclosed inquiry slip ▲

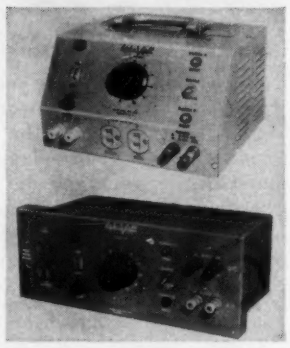
INDUCTION HEATING ACCESSORY matches generator to coil needs



Connected between a high frequency generator and a low impedance work coil, this CT matching unit provides for efficient energy transfer. This modular unit has heavy terminals for attaching to the induction heating coil directly or through coaxial leads for remote operations. Each section is rated 100 kva in the frequency range of 100 to 750 kc. Up to eight sections are offered, and combinations of parallel and series connections give several ranges of impedance. Picture shows the unit with coaxial leads for transmission into a bell jar. • **Lepel High Frequency Laboratories, Inc.,** 55th Street at 37th Avenue, Woodside 77, N. Y.

▲ For more details circle NED-727 B on enclosed inquiry slip ▲

POWER SUPPLIES supply variable ac and dc



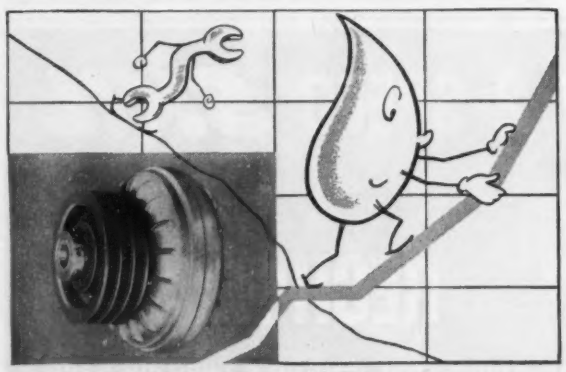
Models in Power Station line of electric power supply units are available for portable use or for recessed or table and bench top installation. All are enclosed in 16-gage steel cabinets, are protected by both fuse and circuit breaker, and supply adjustable alternating and direct current through a variable transformer. Input is 115 v ac. Models 187 and 189 have outputs of 0 to 120 v ac, 0 to 12 v ac, and 0 to 12 v dc, plus respective continuous ratings of 1, 2, and 2 amp. Price is $79. Illustrated models 190 and 191 have outputs of 0 to 120 v ac, 0 to 10 v ac, 0 to 20 v ac, 0 to 6 v dc, and 0 to 15 v dc. Continuous ratings are 3.5, 10, 5, 10, and 5 amp. Price is $139. All units also supply line voltage at 10 amp. Accessories increase direct current output to 0 to 300 v at 100 ma. • **Buck Engineering Co.,** Marcy Street, Freehold, N. J.

▲ For more details circle NED-728 B on enclosed inquiry slip ▲

Electronic Wire & Cable

Alpha Wire Corp.—As many as 324 wire and cable items are listed in 16-page Catalog I-59 along with application information and specifications. A section on 70 tubing and sleeving items, and separate pages devoted to Zipper Tubing, Lacing Cord, and tapes are also featured.

▲ For more details circle NED-729 B on enclosed inquiry slip ▲



performance goes up . . . maintenance goes down . . . when the drive is through fluid!

There is no metal-to-metal contact to transmit destructive shocks and vibrations when you use Twin Disc Hydro-Sheave® Drives. There are other "plus" values, too: they provide "fluid drive" in a package that slips right over the motor shaft . . . they reduce motor starting demands . . . protect against overloads and shock loads . . . prevent stalling and motor burn-outs . . . permit smallest size motors . . . provide smooth, fast acceleration. Hydro-Sheave Drives are available at all nominal motor speeds . . . to 50 hp. Fluid Couplings: to 850 hp.

TWIN DISC Fluid Couplings

TWIN DISC CLUTCH CO. • Racine, Wisconsin

▲ For more details circle NED-730 B on enclosed inquiry slip ▲

Cost of air power? LOW WITH Quincy

Every Quincy Compressor is designed with one purpose: to provide you with long, steady, reliable performance. Features like Safe-Q-Lube and Loadless Starting prevent major breakdowns, save maintenance time and costs. Quincy precision engineering assures maximum efficiency, cuts wear on vital parts. For all applications, your best buy is Quincy. Authorized Service available across the country—around the clock.

Models from 1 to 90 CFM. *Write for catalog.*

QUINCY COMPRESSOR CO., Dept. N-260, Quincy, Ill.
Makers of the World's Finest Air Compressors

▲ For more details circle NED-731 B on enclosed inquiry slip ▲

NEW... Airmatic S-3 Series Valve

DELIVERS INSTANT ACTION CONTROL

Positive high-speed action assures efficient control for air clutches, brakes, power feeds and accurate circuit needs. Full flow capacity shortens machine cycle time for increased production, lower costs and greater safety.

The new Airmatic S-3 Series Three-Way Pilot-Operated Valve is non-corrosive throughout, simple, compact and easily adapted to all types of pneumatic equipment. It operates without springs and by rotating the pilot head can be normally open or normally closed.

All valve deliveries are made from stock.

Specifications

Pipe size	¼, ⅜, ½, ¾ and 1" NPT
Media	Air, oil, water, chemical, vacuum, etc.
Media temperature	0-300°F
Body	Cast Naval Bronze
Seals	Oil Resistant Synthetic Rubber
Pressure range	0 to 200 P.S.I.

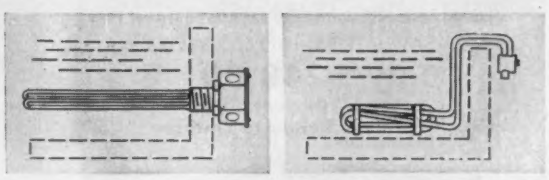
Write for our latest Catalog

AIRMATIC® VALVE INC.
7313 Associate Ave., Cleveland 9, Ohio
Phone: WOodbine 1-5320 • Western Union: Airmatic Valve, Inc., FAX, Cleveland, Ohio

▲ For more details circle NED-732 B on enclosed inquiry slip ▲

For fast heat, For clean heat . . .

Build heat into your product or process with General Electric immersion heaters



For heating liquids in your processing equipment or in your products no other method offers the cleanliness, speed and selectivity made possible by immersion heaters from General Electric.

You get all the heat: Because these heaters can be placed right in the liquid you get maximum efficiency. Heat losses to surrounding atmosphere are reduced. Working conditions are more comfortable.

Fire hazards reduced: Safer, quicker electric heat eliminates danger of open flame, inconvenience of smoke and fumes.

You get accurate control: To give you quick heat regulation for changing conditions, precise thermostat controls are available.

FREE BULLETINS For more information, write Section 723-30, General Electric Company, Schenectady 5, N. Y., and ask for GEA-6305, HEATING WATER AND PLATING BATHS; GEA-6306, HEATING OIL; and GEC-1005 CATALOG OF GENERAL ELECTRIC HEATERS AND DEVICES.

GENERAL ELECTRIC

▲ For more details circle NED-733 B on enclosed inquiry slip ▲

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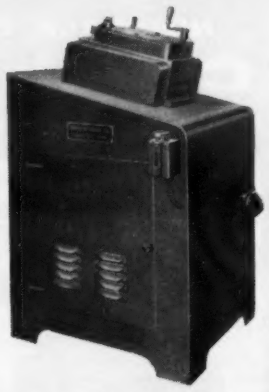
small parts straighteners



Flat, accurate stampings save hours of assembly time, work better and last longer where flatness is important to performance, paint and plate easier and look better.

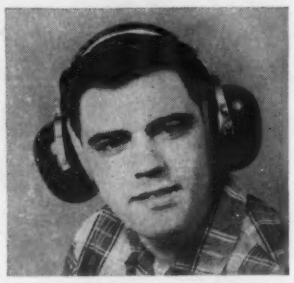
Low cost Cooper Weymouth straighteners are fast, accurate, automatic, straighten small parts, coils or strips to .001" - .002". A unique two-point adjustment gives fast, easy, precise set-up. Machined steel housings, hardened and ground rollers and anti-friction bearings insure longest life. A 4 gear-train drive equalizes bearing loads, gives smoother high-speed operation. Self-contained and self-powered with variable speed controls, straighteners are available in bench-height cabinet or portable models, in four sizes.

Also inquire about other Cooper Weymouth cost-saving automatic press room accessory equipment.

COOPER WEYMOUTH, INC.
604 Honeyspot Road, Stratford, Conn.

▲ For more details circle NED-734 B on enclosed inquiry slip ▲

SAFETY EAR MUFFS protect ears against harmful noise



High-level shrieks, high frequency whistle, and other noise which might impair hearing is effectively reduced without interfering with normal conversation by the Hush Sound Protector. Device consists of a pair of ear muffs made of reinforced plastic shells filled with soundproofing polyurethane foam. Muffs are cushioned with soft vinyl for positive head fit. Headpiece is chrome spring steel with vinyl head cushion. • **International Latex Corp.,** Industrial Products Div., Empire State Bldg., New York 1, N. Y.

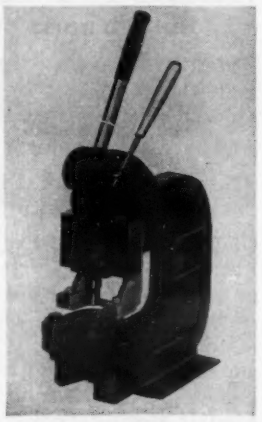
▲ For more details circle NED-736 B on enclosed inquiry slip ▲

SPRING CLIPS & TERMINALS stocked for quick delivery

In addition to line of stock lugs, chips, terminals, metal stampings, wire forms, and other types of electrical parts, a wide variety of spring and fuse clips and lock washer terminals are stocked for quick delivery. Lock washer terminals are made with No. 4, 6, and 8 holes from hot tinned 0.018 brass or phosphor bronze. Sample kits are available. • **Zierick Mfg. Corp.,** 110 Beechwood Ave., New Rochelle, N. Y.

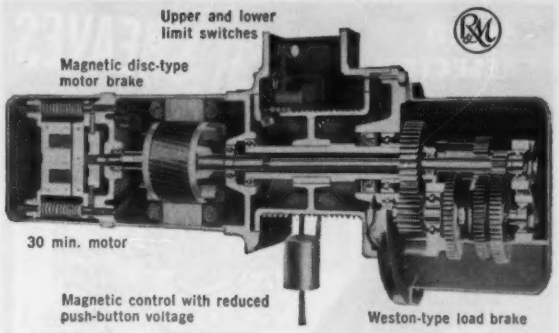
▲ For more details circle NED-737 B on enclosed inquiry slip ▲

HAND BENCH PUNCH punches 2-in. hole in 14-gage steel



This No. 118 Whitney-Jensen hand metal bench punch will punch a 2-in. hole through 14-gage mild steel, or ¼-in. hole through 3/16-in. mild steel. It has a throat depth of 7 in. and throat height of 4½ in. Total ram adjustment of 3/16 in. enables the operator to hold rigid tolerances. Punch will take a variety of forming dies, such as electrical outlet knockout, keyhole, and corner trimming punches and dies. • **Whitney Metal Tool Co.,** 724 Forbes St., Rockford, Ill.

▲ For more details circle NED-738 B on enclosed inquiry slip ▲



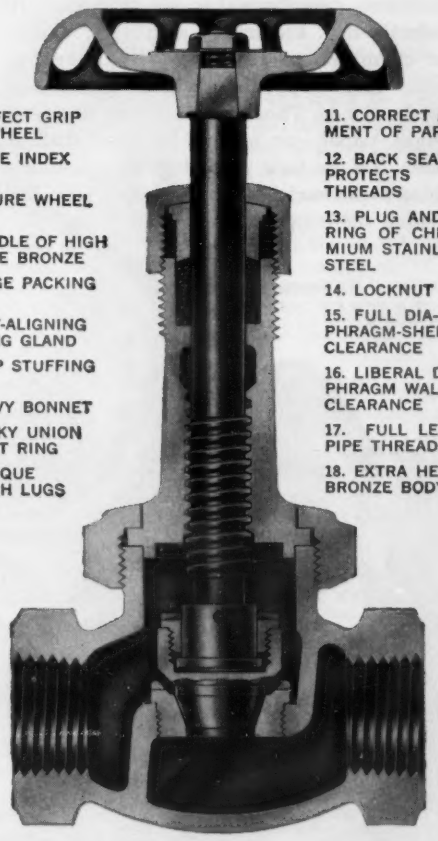
new low-cost hoist

CAPACITIES: ¼, ½, 1, and 2 tons—New Type J wire rope hoists, in three frame sizes, give you important industrial quality features at no extra cost. R&M high torque hoist motor has highest time rating of any in the low price hoist field—30 min., 55° C. Magnetic disc type motor brake, Weston-type load brake, jam-proof upper and lower limit switches—all contribute to long, virtually trouble-free life. Tough aluminum alloy frame. Full magnetic push-button control with reduced push-button voltage. Plain, geared, or motorized trolleys available. Request Bulletin 905 today. **Robbins & Myers, Inc., Hoist & Crane Division, Springfield, Ohio.**

take it up with ROBBINS & MYERS
hoists cranes

▲ For more details circle NED-739 B on enclosed inquiry slip ▲

Only JENKINS gives you this 18 Point Protection against repairs to PLUG TYPE Bronze Valves



1. PERFECT GRIP HANDWHEEL
2. VALVE INDEX PLATE
3. SECURE WHEEL NUT
4. SPINDLE OF HIGH TENSILE BRONZE
5. LARGE PACKING NUT
6. SELF-ALIGNING PACKING GLAND
7. DEEP STUFFING BOX
8. HEAVY BONNET
9. HUSKY UNION BONNET RING
10. UNIQUE WRENCH LUGS
11. CORRECT ALIGNMENT OF PARTS
12. BACK SEATING PROTECTS THREADS
13. PLUG AND SEAT RING OF CHROMIUM STAINLESS STEEL
14. LOCKNUT
15. FULL DIAPHRAGM-SHELL CLEARANCE
16. LIBERAL DIAPHRAGM WALL CLEARANCE
17. FULL LENGTH PIPE THREADS
18. EXTRA HEAVY BRONZE BODY

There's much more to the durability of a Jenkins Plug Type Bronze Valve than the 500 Brinnell Armor Seat. Jenkins gives you 17 other superior features that contribute to long life and completely satisfying service.

SEND for folder 202-A which explains why these valves set economy records where close regulation of steam is required, or seat-cutting substances like boiler scale and rust tubercles are encountered. Jenkins Bros., 100 Park Ave., New York 17.

JENKINS VALVES
Sold Through Leading Distributors Everywhere

▲ For more details circle NED-740 B on enclosed inquiry slip ▲

DRILL MASONRY *at Greatest Savings — 50, 60, 70% with NEW Truco Portable Diamond Drilling Equipment*

5 NEW MODELS PLUS POWER COMBINATIONS= 16 MODELS

Electric, air, gasoline power

•

10 NEW FEATURES of use, economy, performance

•

Clean, accurate holes ¼" to 20"

•

Roller base, or base plate or truck mounted models. Drill ANYWHERE

•

Complete line of engineered, matched accessories

•

World's cleanest, quietest, thriftiest hole drilling. No edge patching.

•

Truco equipment often pays for itself in a single day or on a single job.

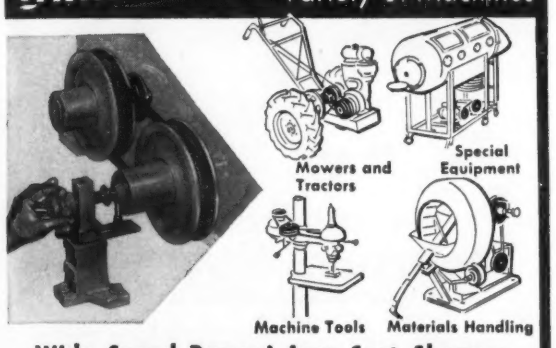
Booths 97-98-99 Masonry Contractors Show, Feb. 21-24, Cinci.

Write for NEW illustrated catalog

TRUCO MASONRY DRILLING DIVISION
WHEEL TRUEING TOOL CO.
107-3200 W. Davison Avenue • Detroit 38, Michigan

▲ For more details circle NED-735 B on enclosed inquiry slip ▲

SPEED SELECTOR
VARIABLE PITCH SHEAVES
Control Speeds on Variety of Machines



Wide Speed Range! Low Cost Sheaves

Speed Selector Sheaves can give your machines or equipment extra wide-range speed control on fixed centers. Efficient, rugged, simple to use — low in cost! Write for Illustrated Bulletin.

CATALOG FREE! WRITE TODAY

SPEED SELECTOR INC.
P.O. BOX 312-N • CHAGRIN FALLS, OHIO

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give a dry copy
4 seconds FAST

Speed and simplicity. "Thermo-Fax" Copying Machines give both because the copying is perfectly dry. Electricity alone does the work. No chemicals to fuss with. No negatives to make. They copy directly from an original in just 4 seconds. Those copies are on white, bond-weight paper—or any of 6 other distinctive colors. To see how perfectly dry copying simplifies paperwork at low cost, call your dealer. Or mail the coupon.

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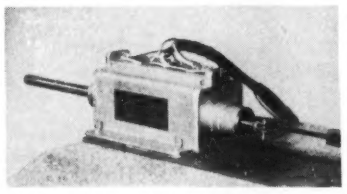
Minnesota Mining and Manufacturing Company
Dept. DBQ-20, St. Paul 6, Minnesota

Name_____
Company_____
Address_____
City_____ Zone____ State____

MINNESOTA MINING AND MANUFACTURING COMPANY
...WHERE RESEARCH IS THE KEY TO TOMORROW

▲ For more details circle NED-742 B on enclosed inquiry slip ▲

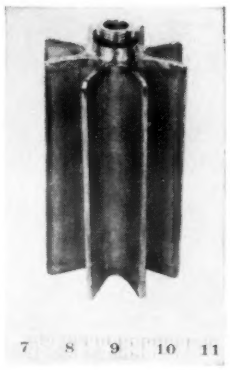
LINEAR POSITIONING MOTOR
shaft movement repeats to 0.005 in.



Tuning, switching, signaling, and positioning are but a few of the applications for this linear positioning motor, shaft of which moves linearly on an input selected by switch, relay, pushbutton, or digital controls. Shaft movement is forceful and uninterrupted, and repeats within 0.005 in. Travel times of 100 milliseconds, and thrusts of 100 lb or more are possible. Model B1002 operates on 115 v dc continuously and 300 v dc intermittently. Stroke is 2⅛ in. Design makes possible an unlimited number of positions with resolution of 0.010 in. Stroke lengths range from a fraction of an inch to several inches. • **Tronics Corp.**, 3324 Hiawatha Ave., Minneapolis 6, Minn.

▲ For more details circle NED-743 B on enclosed inquiry slip ▲

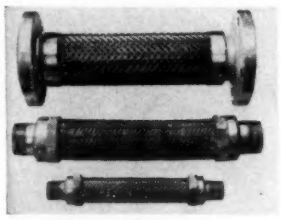
POROUS STAINLESS FILTER
in ratings down to 2 microns



Filtration ratings down to 2 microns are available in this Star S-78 porous stainless steel filter element. Lengths, available from 6 to 18 in., are contained in stainless steel housings only 4 in. in diameter. Unit will operate at pressures from full vacuum to 125 psi, at temperatures up to 300° F. The 6-in. unit, for example, can be used for flow rates up to 5 gpm or 60 cfm at pressure drops of only 2 to 3 psi. • **Pall Corp.**, Micro Metallic Div., 30 Sea Cliff Ave., Glen Cove, N. Y.

▲ For more details circle NED-744 B on enclosed inquiry slip ▲

FLEXIBLE PIPE CONNECTIONS
absorb noise and vibration

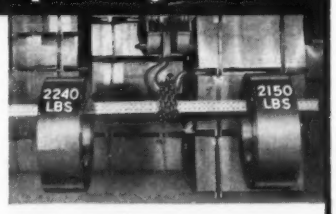


Pump installations, hot water systems, and steam systems where thermal expansion and vibrations are problems are typical applications for Penflex flexible metallic pipe connectors. They will correct pipe misalignment and absorb unwanted noise and vibration being transmitted along system lines. Constructed with flexible tubing, connectors are available in bronze ½ to 4-in. ID sizes and in 5 to 12-in. ID stainless steel sizes. They will handle pressures from 125 to 600 psi. • **Pennsylvania Flexible Metallic Tubing Co.**, 7200 Powers Lane, Philadelphia, Pa.

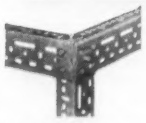
▲ For more details circle NED-745 B on enclosed inquiry slip ▲

4 reasons why you should use Equipto Angle...

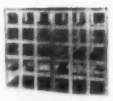
1. STRONG — Combinations of Equipto Angle can be used to insure proper structural strength to support any weight. *(Photo shows demonstration of strength, not a product application)*



2. FAST — Equipto Angle is marked every 3" for accurate cutting. One stroke cutter positions and cuts angle to correct length.



3. SIMPLE — Equipto Angle is exceedingly swift and easy to assemble. All you need is a wrench.



4. INEXPENSIVE No welding . . . Hot dipped galvanized finish. Can be dismantled and reused again and again.

May be used for building stairs, guard rails, ladders, racks, etc. Available in 2 sizes, 2 gauges, in 10 or 12 ft. lengths, 10 pieces to a bundle including nuts and bolts. Write for free IDEA BOOK 299.

Equipto
690 Prairie Avenue
Aurora, Illinois

▲ For more details circle NED-746 B on enclosed inquiry slip ▲

SHOPMOBILE
PAYS FOR ITSELF IN 90 DAYS!
SAVES MANY HOURS OF MAINTENANCE TIME—SAVES TRIPS—SPEEDS WORK
Only $249.00
F.O.B. Factory, Cardington, Ohio
Finish Painted, Ready to Operate

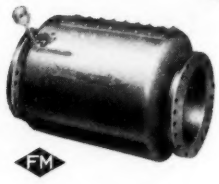
TAKE THE WORKSHOP TO THE WORK!
SHOPMOBILE is an all-steel welded workshop on wheels with roomy storage compartments that can be locked and workbench surfaces at working height.
MECHANIZE YOUR MAINTENANCE DEPARTMENTS! WRITE TODAY FOR FULL INFORMATION.

STAHL METAL PRODUCTS, INC.
4750 W. 160th ST. • CLEVELAND 35, OHIO

▲ For more details circle NED-747 B on enclosed inquiry slip ▲

NORWALK GAS and AIR
Check Valves
high capacity...low pressure drop

Disc-Type—Gas and Air—Horizontal or vertical operation. Aluminum or stainless steel discs. Temperatures to 400°F. Screwed or flanged. From ½" to 16".



Disc-Type—Gas and Air—Low and High Pressures—Steel construction. Negligible differential at full capacity. Outside indicator on disc, counterbalanced. Aluminum or stainless steel discs. From 10" to 42".

Diaphragm-Type—Gas and Air—Horizontal or vertical types. Cast iron. Back pressure to 50 psi. Temperatures to 200°F. Screwed or flanged. From ½" to 6".

Eclipse
Industrial Combustion Division
ECLIPSE FUEL ENGINEERING CO.
1128 BUCHANAN STREET
ROCKFORD, ILLINOIS

▲ For more details circle NED-748 B on enclosed inquiry slip ▲

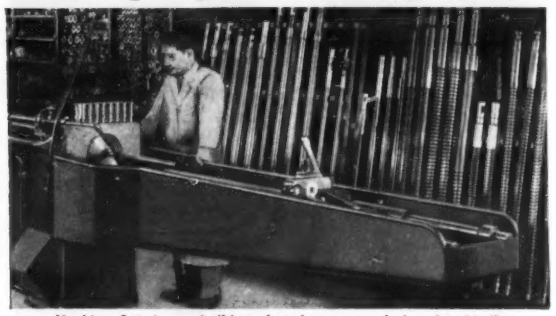
IDEA FOR LOW-COST PRODUCTION LINE

Build your own assembly lines with inexpensive angle-iron tracks and these novel Bassick grooved wheel casters. They give you easy flow of parts and finished products . . . better utilization of floor space . . . economical means of handling heavy loads . . . money-saving protection of floor surfaces. Equally useful in solving materials handling and product assembly problems. 8-page brochure gives the facts. THE BASSICK COMPANY, Bridgeport 5, Conn. *In Canada:* Belleville, Ont. 0.4

Symbol of SW Excellence
Bassick
A DIVISION OF STEWART-WARNER CORPORATION

▲ For more details circle NED-749 B on enclosed inquiry slip ▲

Look beyond "first-cost" in buying broaching tools



Machine, fixturing and all broaches shown were designed and built by Sundstrand-American Broach.

It doesn't pay to take chances when buying broaching tools. Original cost of the broaching tools can be actually a minor factor in determining machining cost per piece.

Because Sundstrand-American broaches are backed by the experience of building machines, fixtures and tools for every type of broaching job — you get the benefits of "extra" skills that insure closer tolerances, better surface finishes, higher production rates and more pieces per sharpening. It's easy to prove these benefits on your own job. Just send your specifications and part prints to address below.

GET MORE FACTS *by writing for your copy of Bulletin A-462 "Practical Broaching Methods" today.*

SUNDSTRAND-AMERICAN BROACH
DIVISION OF SUNDSTRAND CORPORATION
ANN ARBOR, MICHIGAN

▲ For more details circle **NED-750 B** on enclosed inquiry slip ▲

It's so easy! Get Sparkling Clear, Conditioned Water with **KARLSONITE***

HALTS CORROSION and SCALE DEPOSITION
Prevents Rust Stains on Equipment

KARLSONITE phosphate water conditioner holds minerals and metallic elements in water in perfect suspension, preventing clogging deposits that reduce efficiency of boilers, heat exchangers, cooling towers, etc.

Water for human consumption, too, is vastly improved. Crystal-clear, tasteless and non-toxic, it produces no deposits or rust stains in ice cubers, coffee urns and other equipment in most cases . . . when conditioned with KARLSONITE.

An easily installed KARLSON dispenser feeds KARLSONITE into the system automatically. With no moving parts, maintenance is nil. Only occasional replacement of the conditioner is required.

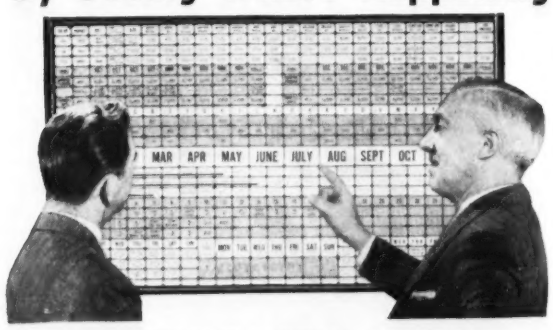
With KARLSONITE, it's so easy to get the *most* and the *best* out of your water system. The cost? Amazingly low. Why not investigate?

Write for full information

STILES-KARLSONITE CORPORATION
1564 Grand Avenue • Waukegan, Illinois
*Reg. U.S. Pat. Off.
WATER CONDITIONING COMPOUNDS AND EQUIPMENT

▲ For more details circle **NED-751 B** on enclosed inquiry slip ▲

You Get Things Done Better By Seeing What's Happening



BOARDMASTER VISUAL CONTROL

- ★ Gives Graphic Picture of Your Operations in Color.
- ★ Facts at a Glance - Saves Time and Prevents Errors.
- ★ A Simple, Flexible Tool - Easily Adapted to Your Needs.
- ★ Easy to Use. Type or Write on Cards, Snap on Board.
- ★ Ideal for Production, Scheduling, Sales, Inventory, Etc.
- ★ Compact, Attractive. Made of Metal. 500,000 in Use.

Complete Price **$49.50** Including Cards

FREE 24-Page ILLUSTRATED BOOKLET N-500 Without Obligation

GRAPHIC SYSTEMS, 55 West 42nd St., New York 36, N.Y.

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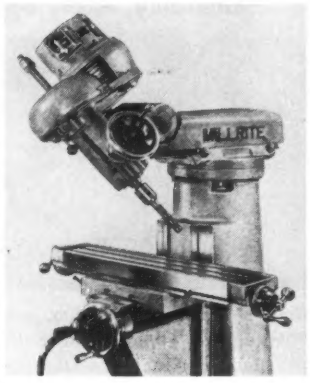
MILLER SWIVEL HEAD
compound type increases versatility

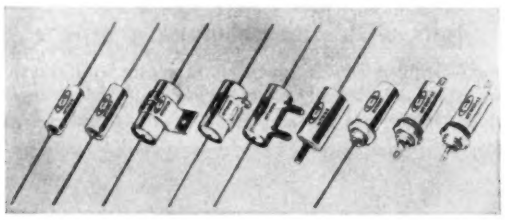


Compound swivel head now available for the Millrite dovetail ram and turret vertical toolroom milling machine provides for double-angle settings, increasing the machine's range and capacity. A protractor type scale facilitates angular setting. With compound swivel overarm, throat distance (spindle-to-column face) is 17 in. maximum, 6½ in. minimum. Distance from nose to table is 18 in. The 7 x 27-in. table has 16-in. longitudinal and 8-in. cross feeds. Vertical knee travel is 15 in.; ram movement, 12 in. Quill travels 4 in. • **U. S. Burke Machine Tool Co.**, Brotherton Road at Pennsylvania R. R., Cincinnati 27, Ohio.

▲ For more details circle **NED-753 B** on enclosed inquiry slip ▲

SEALED CAPACITORS
metallized paper-plastic film type

Various mounting styles are offered in Type MTWK miniature capacitors which operate from −55 to 125° C without voltage derating. The metallized paper-



plastic film units are hermetically sealed in tubular metal cases with glass-to-metal end seals. Uses include power supply filter circuits, bypass functions, and other applications where high insulation resistance values are not essential. Three different internal circuit configurations are supplied in 200, 400, and 600-v dc sizes. • **Cornell-Dubilier Electric Corp.**, 1047 Hamilton Blvd., South Plainfield, N. J.

▲ For more details circle **NED-754 B** on enclosed inquiry slip ▲

Electronic Instruments Catalog

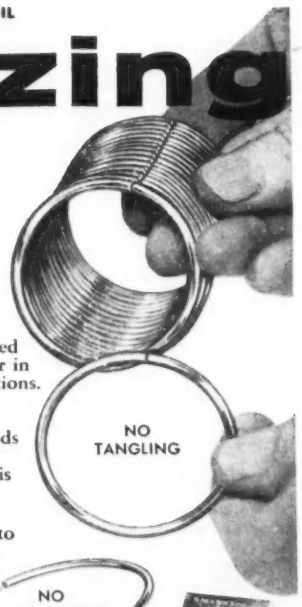
Instruments for electronic, biological, and chemical measurements and control are described and illustrated in 32-page 1960 reference catalog. Specifications and performance data cover the complete line of instruments, including the most recently added Model 603 differential electrometer amplifier, the Model 250 static meter, and Model 240 regulated high-voltage supply. Write on company letterhead to Keithley Instruments, Inc., 12415 Euclid Ave., Cleveland 6, Ohio.

▲ For more details circle **NED-755 B** on enclosed inquiry slip ▲

NO TANGLE-NOTCH COIL

brazing rings

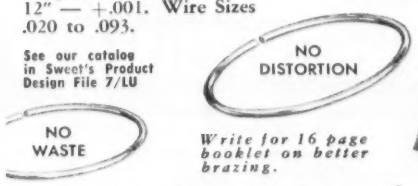
Snap OFF COIL
PLACE ON PART



Preformed No Tangle-Notch Coil Rings end wasted time in placing silver solder in position for brazing operations. Rings fit quickly and accurately on parts to be joined. Cut and try methods and resulting rejects are eliminated. Silver solder is actually metered to flow evenly — positive bond.

Ring Diameters from ¼" to 12" — +.001. Wire Sizes .020 to .093.

See our catalog in Sweet's Product Design File 7/LU



Write for 16 page booklet on better brazing.

LUCAS-MILHAUPT *Engineering Co.*
5070 South Lake Drive, Cudahy, Wisconsin

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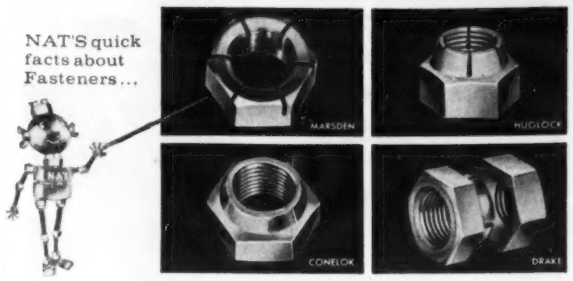
NAT'S quick facts about Fasteners...



Looking for the **right** lock nut? Put these four high on your check list

MARSDEN for minimum cost, average conditions. Free-running until seated. One-piece, re-usable.

HUGLOCK for adverse conditions. Locks without seating. One-piece, re-usable.

CONELOK for high fatigue life. Closed stress paths. Locks without seating. One-piece, fully re-usable.

DRAKE for severe stress, shock and vibration. Free-running until seated, or can be locked at any point. Two-piece, fully re-usable.

Write for literature and keep it handy for future reference.

The National Screw & Mfg. Company
Cleveland 4, Ohio
Los Angeles 22, Calif.

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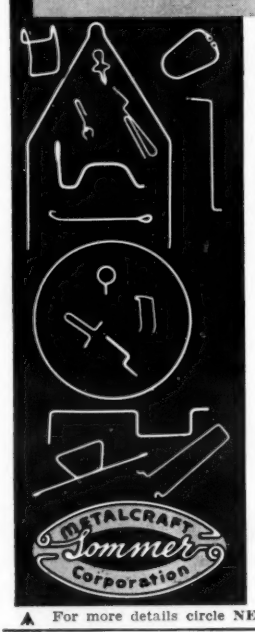
WIRE PARTS and PRODUCTS Fast . . . Accurate . . . Low Cost



The forms shown here are only a few we make. They indicate our broad experience with different shapes, materials, finishes, welds.

Automatic wire-forming machines produce precision work on a volume basis at competitive prices, and speed up deliveries.

Finishes include baked enamel, cadmium, brite zinc, brite nickel, nickel chrome and mill finishes —in both barrel and fully automatic equipment.

Inquiries are invited and will be answered promptly. Send sample, blueprint or drawing. We will submit recommendations and quotations without delay.

SOMMER
METALCRAFT CORPORATION
200 POSTON DRIVE
CRAWFORDSVILLE, INDIANA

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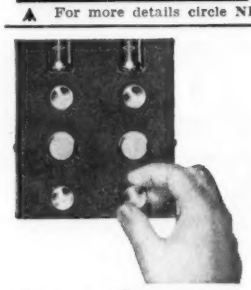
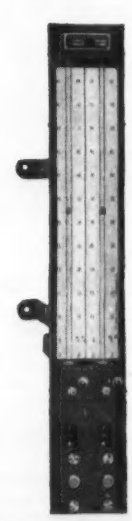


NEW INTEGRAL SIMPLICITY

in continuous, remote TANK GAUGING



Simple in principle and practice . . . the new Meriam Continuous-Purge Tank Gauge. Integral easy-reading purge-flow indicator and convenient front-panel operating knobs make operation simple, foolproof.

Based upon manometric principles, the Gauge has the accuracy and dependability inherent in the manometer. No calibration troubles, no mechanical difficulties. Indication is direct, dependable and continuous.

Rugged enough for outdoor use, the Gauge can also be panel mounted anywhere up to 600 feet from the tank. It is available in single- and multiple-tube models in ranges up to 60 inches, with a choice of indicating fluids to permit selection for sensitivity and readable accuracy required.

WRITE FOR BULLETIN L-10

The MERIAM Instrument Company
10920 Madison Avenue, Cleveland 2, Ohio S.A. 1962

▲ For more details circle **NED-759 B** on enclosed inquiry slip ▲

5 Reasons Why Veelos Adjustable V-Belts Are Better for Your Drives

1. *Balanced Construction* assures faster, cleaner work. Each link and stud is identical in size and weight; no spots of varying density.
2. *Less Vibration*—up to 90% less—in machines with Veelos-equipped drives. Wear on bearings and machines is greatly reduced.
3. *Cooler Running* assures long life. Constant circulation of air around and between Veelos links prevents internal heat build-up.
4. *Greater Flexibility* reduces slippage. Each link moves around sheave independently, maintains full contact; permits shorter centers, smaller sheaves.
5. *Simple Installation* "knocks out" down-time. Saves up to 50% installation time on outboard bearing drives. No resetting, tilting or moving motors with adjustable Veelos.

Write for free Veelos Data Book

NEW!

VEELOS TOOL

Provides a fast, safe way to couple and uncouple link v-belt. Every stockroom attendant needs one . . . every maintenance mechanic needs one. Order from your Veelos distributor or write for illustrated bulletin.

VEELOS THE BALANCED LINK V-BELT

MANHEIM Manufacturing & Belting Company Manheim 4, Pa.

Veelos is known as Veelink outside U.S.A.

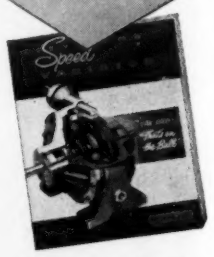
For more details circle NED-760 B on enclosed inquiry slip

If you want a simple, compact, infinitely variable speed drive for . . .

agitators
boring mills
centrifuges
conveyors
cut-off machines
experimental equipment
fatigue testing machines
feed screws
gear pumps
index mechanisms
knitting machinery
laboratory equipment
lathes
metering pumps
mixers
packaging machines
paper machines
pill extruders
plastic machinery
rotating drums
spectrometers
spring making machines
textile process machines
timing switches
transfer machines
vibration testers
washers
welding machines
winding devices
wire drawing machines
yarn rolls

or any one of hundreds of other devices requiring variable speed control

WRITE FOR BULLETIN K-200 FOR FULL INFORMATION ON THE NEW CLEVELAND SPEED VARIATOR



It's quiet, efficient, economical. No belts or complicated linkage. Instant speed change by manual, automatic or remote control.

THE CLEVELAND WORM & GEAR COMPANY
Speed Variator Division, 3283 E. 80th St., Cleveland 4, Ohio
Subsidiary of Eaton Manufacturing Company

For more details circle NED-761 B on enclosed inquiry slip

ROPER PUMPS

0.3-300 GPM Capacities
Pressures To 1,000 PSI

PUMPS FOR ALL INDUSTRIES

For hydraulic, pressure feed and transfer applications—Roper rotary pumps are used in petroleum, processing and general manufacturing industries.

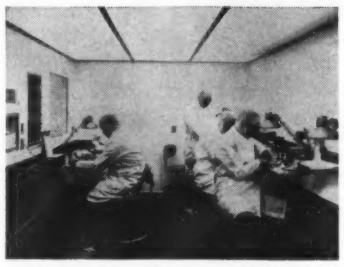
Write for 38 page booklet "How To Solve Pumping Problems."

ROPER ROTARY PUMPS

ROPER HYDRAULICS, INC.
DEPT. 662, P. O. BOX 269
COMMERCE, GEORGIA

For more details circle NED-762 B on enclosed inquiry slip

PACKAGED CLEAN ROOMS have controlled temperature and humidity, many optional features



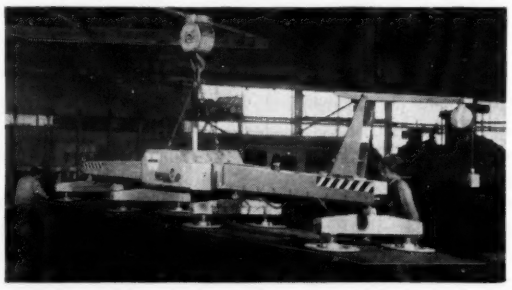
Made up of modular panels and sold on an erected basis, these packaged, prefabricated clean rooms contain all elements necessary to achieve and maintain a dust-free, constant temperature, and controlled humidity environment. Panels have enameled or stainless steel interior walls, inner layer of plastic foam insulation, and enamel finished or galvanized metal outer walls.

Air lock entrances can be equipped with shoe cleaners, smock lockers, and showers, all optional. Various types of pass-throughs are offered. Air conditioning units accommodate room sizes from 10 x 10 ft to 50 x 100 ft or larger. Electrical services, gas and air lines, vacuum cleaning systems, and other accessories are mounted flush within the walls. High light level for close work is provided. Rooms can be dismantled and moved or expanded at will. • **Agnew-Higgins Inc.**, Packaged Laboratories Div., 40 S. Los Robles, Pasadena, Calif.

For more details circle NED-763 B on enclosed inquiry slip

VACUUM LIFTING EQUIPMENT made in capacities up to 20 tons with one or more grippers

Rough-surfaced objects such as concrete and diamond tread plate, and stainless steel, glass, and other smooth-surfaced materials are picked up by the multiseal grip-

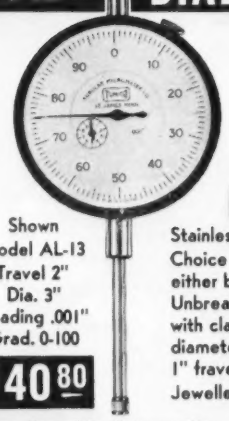


per gasket of Pressuregrip vacuum lifting equipment. It is suited for general purpose overhead crane applications, or it can be custom engineered for automatic or semiautomatic handling operations.

Two basic components are Vac-Pac motor and pump unit and the vacuum gripper, made in diameters up to 25 in. with lifting capacities up to 2000 lb each. Any number of grippers can be used to obtain the required lifting capacity. Reserve tank maintains vacuum in the event of power failure. Units of various sizes have capacities up to 20 tons. • **Whiting Corp.**, 157th & Lathrop Avenue, Harvey, Ill.

For more details circle NED-764 B on enclosed inquiry slip

SERIES "AL" TUMICO DIAL INDICATORS



These exceptionally accurate gages have the unique distinction of having a 1" or 2" travel. Simple design and rugged construction assure outstanding accuracy and long life.

READING IN .001" or .0005"

Shown
Model AL-13
Travel 2"
Dia. 3"
Reading .001"
Grad. 0-100

$40.80

Stainless steel stem and spindle. Choice of 6 graduations with either balanced or continuous dial. Unbreakable crystal. Adjustable bezel with clamp for locating zero. Two dial diameters available - 2¼" & 3" for 1" travel and 3" for 2" travel gages. Jewelled bearings available on all models.

For Complete Information request our 96 Page Catalog — Contact any of our 4 "Coast to Coast" Locations or your nearest Local Distributor.

SCHERR-TUMICO
PRECISION MEASURING TOOLS AND INSTRUMENTS

WAREHOUSE STOCK, SHOWROOMS & SALES OFFICES AT
NEW YORK: 200 Lafayette Street, New York 12, N. Y.
ST. JAMES: St. James, Minnesota
LOS ANGELES: 3337 West Olympic Blvd., Los Angeles 19, Cal.
CHICAGO: 5045 W. Harrison, Chicago 44, Ill.
When writing to any of the above locations, refer to DEPT H-2

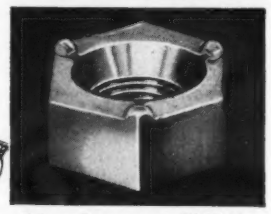
For more details circle NED-765 B on enclosed inquiry slip

These 2 WELD NUTS for blind assemblies

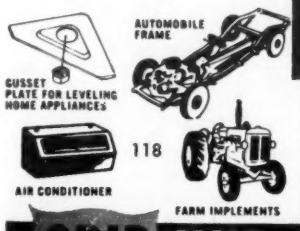
Gripco Pilot-Projection Weld Nut, circular pilot designed, provides quick, easy positioning of nut in bolt hole for instant resistant welding. No jigs, no fumbling, no waste of time. Weld spatter cannot foul threads. Two pilot heights for different metal gauges.

will give you
- Easier Positioning
- Quicker Fastening
- Extra Threaded Depth
- Less Cost

Available with or without Gripco locking feature. Three weld projections on bottom of nut provide a firm non-rocking electrical connection during welding. Write for samples and NEW CATALOG today.



Gripco Countersunk Weld Nut eliminates time-wasting retapping of nuts after welding. Exclusive countersunk nut bottom eliminates fouling of threads by weld spatter. No time wasting false starts, no cleaning of damaged threads, nut ready to receive bolt immediately.

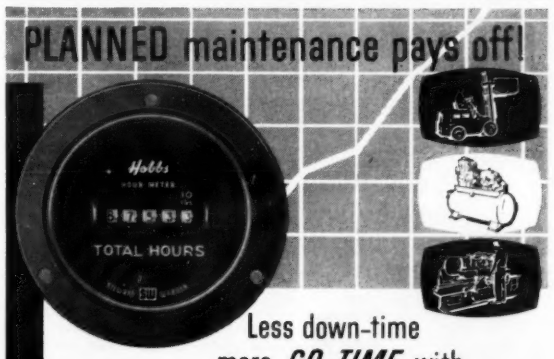


118

GRIP NUT COMPANY
106 Maple Ave. • South Whitley, Ind.

For more details circle NED-766 B on enclosed inquiry slip

PLANNED maintenance pays off!



Less down-time more *GO-TIME* with

Hobbs INDUSTRIAL HOUR METERS

- Plan maintenance on operating hours — for superior performance and maximum utilization.
- Set up a factual basis for rental and leased equipment . . . for buying and selling.
- Time ALL your equipment: d-c hour meter for engine or battery-powered units . . . a-c hour meter for line-powered equipment.
- Be sure with a Hobbs true electric timing instrument — no revolution counter can do the job!

▶ Distributors in Principal Cities

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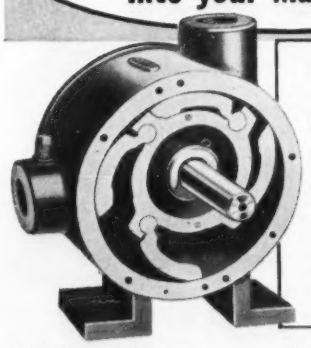
Symbol of SW Excellence

John W. Hobbs Corporation
A DIVISION OF STEWART-WARNER CORPORATION
2055 YALE BLVD., SPRINGFIELD, ILLINOIS

For more details circle NED-767 B on enclosed inquiry slip

Here's why LEIMAN AIR PUMPS

Put "Lifetime" Dependability into your Machines!



HINGED, CURVED VANES OF DURABLE CAST IRON

Take up their own wear!

Four curved vanes on easy-action hinges maintain sealed contact with cast iron cylinder walls by centrifugal force. They hone themselves to hard, glassy smoothness to take up their own negligible wear. 2 to 3 times more air space is provided.

Typical reports from users:
"Never wear out or give trouble"
"Used 350 pumps without a complaint"
"Pumping 24 hours a day for 21 years"
"12 years without attention, except oiling"

Leiman Air Pumps will last for the life of your equipment — providing fully-rated vacuum (suction) or pressure with little or no maintenance. Compact design has fewer moving parts. Air flow is smooth — operation extremely quiet. Every pump tested. Models and sizes to meet varying requirements. Engineering assistance on any design or application problem.

LEIMAN Rotary Positive **AIR PUMPS**

Vacuum to 29.9" Hg.
Pressure to 20 p.s.i.g.
Volume to 162 c.f.m.

WRITE FOR NEW CATALOG plus Application Book showing hookups.

LEIMAN BROS., INC.
167 Christie St., Newark 5, N.J.
Established 1887

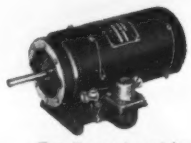
For more details circle NED-768 B on enclosed inquiry slip

consider the advantages of a

Lamb® MOTOR

...engineered to your product

High performance motor for automotive wheel spinners, blower drives, etc. Frame 4⅜ x 2¼



Totally enclosed fan-cooled 27 volt DC motor for pump drive. Frame 2 x 1½

You get the *right* motor to assure desired product performance . . .

You get the *right* motor to meet weight and space requirements . . .

You get the *right* motor cost-wise, too, with a . . .

Lamb Electric motor *engineered* to the application and *mass-produced* to obtain the most favorable cost. *Write for descriptive folder.*

THE LAMB ELECTRIC COMPANY
KENT, OHIO
A Division of American Machine and Metals, Inc.
In Canada: Lamb Electric—Division of Sangamo Company Ltd.—Leaside, Ontario

▲ For more details circle NED-769 B on enclosed inquiry slip ▲

TRICKY BENDS ARE NO TRICK

With Pedrick Production Benders any bend is an easy bend—fast and economical, too! Pipe, tubing, bus bar or structural metal—*bend with Pedrick.*

PEDRICK TOOL AND MACHINE CO.
3640 N. Lawrence St., Phila. 40, Pa., Dept. 6.

"You'll profit by reading the NEW PEDRICK LINE BULLETIN. Write today."

BEND WITH PEDRICK

▲ For more details circle NED-770 B on enclosed inquiry slip ▲

BECKER Keen-Cut Electrodes for use in

CARBON ARC-AIR JET GOUGING

KEEN-CUTS—for the best characteristics of carbon and graphite in a carbon arc cutting electrode. Higher current capacity . . . longer life . . . shorter cutting time . . . greater material removal . . . smooth surface gouge . . . controllable accuracy . . . hot stable cutting arc . . . elimination of smoke and gases.

And they're low in cost. Try BECKER KEEN-CUT ELECTRODES—black or copper coated, standard diameters, 12" lengths in 150 to 1400 amp. range—for the most efficient, labor-saving electrode in carbon arc/compressed air cutting.

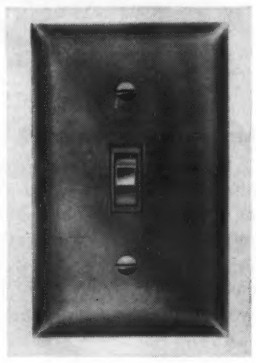
A COMPLETE LINE OF CARBON AND GRAPHITE WELDING SUPPLIES—carbon and graphite electrodes, carbon rods and plates, welding paste, graphite cores and chills, graphite powder and particles of any mesh.

Write for catalog.

BECKER BROTHERS CARBON CO.
3454 South Laramie Ave. • Cicero 50, Illinois
Telephone: BI 2-1260 • Chicago

▲ For more details circle NED-771 B on enclosed inquiry slip ▲

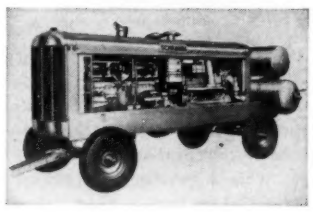
LIGHT DIMMING SWITCH
fits in standard control boxes



Either thirty or one hundred per cent of the light from an incandescent source is turned on with the Hi-Lo Dimswitch. It replaces any existing switch for incandescent lamps, or single and three or four-way switches. The electronic switch uses current proportionate to light, thereby increasing lamp life when on the lower light output. With "off" in the center position, one output is switched on without going through the other. Regular or interchangeable QST size for single or multiple gang boxes can be used in 2-in. thick walls, back to back. • **Slater Electronics Corp.**, 45 Sea Cliff Ave., Glen Cove, N. Y.

▲ For more details circle NED-772 B on enclosed inquiry slip ▲

AIR COMPRESSOR
delivers 600 cfm at 100 psi



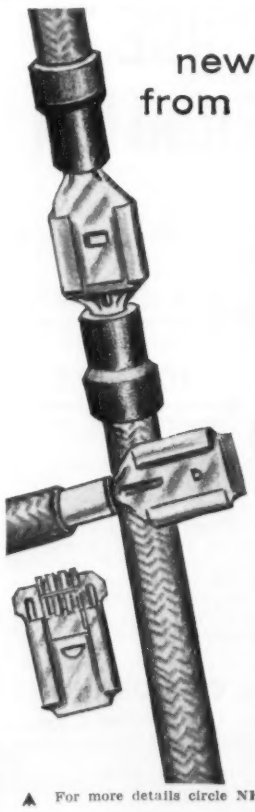
Single liquid cooling system serves both the engine and compressor sections of the Model 600-TC air compressor. Supercharged compressor is driven by a turbocharged UDT-1091 International diesel engine. Delivery is 600 cfm at 100 psi, even under continuous operation up to 10,000 ft. Engine operating speed is 1200 rpm. Standard equipment includes 12-v battery and generator, lubricating oil filters, ASME code air receiver, and a Pneumastat which automatically regulates speed in relation to demand. • **Schramm, Inc.**, 900 E. Virginia Ave., West Chester, Pa.

▲ For more details circle NED-773 B on enclosed inquiry slip ▲

HYDRAULIC HAND PUMPS
for 1000, 2500, and 5000-psi use

Cartridge valves of single-acting, hand-operated hydraulic pumps are easily serviced. Models for 1000, 2500, and 5000-psi operation have displacements of 0.9, 0.4, and 0.16 cu in. per stroke. Standard reservoir of 60-cu in. capacity may be pressurized up to 80 psi. A release valve is located in the front. Packings are easily replaced. Price is $39.95. • **Sheffer Corp.**, 326 W. Wyoming Ave., Cincinnati 15, Ohio.

▲ For more details circle NED-774 B on enclosed inquiry slip ▲



new! from ETC

a new series of

QUICK DISCONNECTS

Push-on high-pressure spring-loaded connections with special locking action. Ideal for automotive, appliances, many switch and control applications. Insulated and non-insulated, straight and flag types, 18-14 wire range. Closed barrel construction for quick, easy crimping on wire—rugged, positive connection. Write for samples, prices.

ETC INCORPORATED
992 East 67th Street, Cleveland 3, Ohio

▲ For more details circle NED-775 B on enclosed inquiry slip ▲

KEEP MACHINES RUNNING
...reduce maintenance costs,

with DEUBLIN ROTATING UNIONS

¾" Size Union Illustrated

for water, steam and air service!

Here is a compact, efficient rotating union—

★ LEAKPROOF
★ CORROSION PROOF
★ EASY TO SERVICE
★ VIRTUALLY FRICTIONLESS
★ PRECISION BUILT FOR LONGER LIFE
★ INTERCHANGEABLE with any other rotating union
★ VERSATILE—For Monoflow or Duoflow operation, available in ½", ¾", 1", 1¼" and 1½" sizes
★ MINIMUM TORQUE makes it ideal for high speed applications

See how this dependable, new rotating joint can reduce inventory of replacement parts because of Deublin's standardization of sizes. Keep "shut downs" from wrecking your production schedules. Pays for itself many times over.

104 *Write today for full details and prices.*

DEUBLIN COMPANY
1925 STANLEY ST., NORTHBROOK, ILLINOIS

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Robert Harding, right, assistant chief engineer of Arma division, American Bosch Arma Corporation, points out to Frank McShane, cost-improvement expert, the high quality and contrast of an 11" x 17" stock print reduced from an original 22" x 34" drawing. The print is a sample of many run off on an offset duplicator from an inexpensive offset paper master prepared xerographically by XeroX Model 1218 copying equipment.

thanks to XEROGRAPHY...

ARMA

SAVES $82,000 YEARLY

...*reproducing*
- *engineering drawings*
- *drawing-change notices*
- *specifications sheets*
- *parts lists*

Arma Division, American Bosch Arma Corporation, is saving $82,000 a year in the rapid reproduction of engineering drawings, drawing-change notices, specification sheets, and parts lists. Arma manufactures midget brains for missiles and other intricate electronic devices.

The $82,000 economy results from the installation of XeroX® Model 1218 copying equipment and offset duplicating to supplant conventional drawing-reproduction methods.

XeroX Model 1218 copying equipment, operating on the principles of xerography—clean, fast, dry, electrostatic—prepares inexpensive offset paper masters from original engineering drawings of A to D size.

The larger drawings are reduced with fine legibility to 12 x 18" masters, from which multiple prints are quickly run off on offset duplicators.

The quality of copies is superb. Yet, prints cost so little that engineers are encouraged to discard them after use, rather than re-file them.

Drawing-change notices now reach production lines and suppliers faster than ever before.

An Arma engineering library of expendable drawings provides prints, run off in advance of actual need, for engineers' self-service availability.

Xerography can help *you*, too. Write for proof-of-performance folders showing how companies of all kinds and sizes are speeding paperwork duplicating and saving thousands of dollars yearly by xerography.

HALOID XEROX INC.
60-205X Haloid St., Rochester 3, N. Y.
BRANCH OFFICES IN PRINCIPAL U. S. AND CANADIAN CITIES
Overseas: Rank-Xerox Limited, London, Eng.

HALOID XEROX®

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LOW COST! HIGH QUALITY!

DODGE
SLP BALL BEARING PILLOW BLOCK

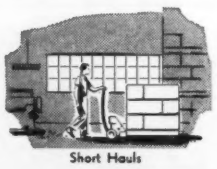
A serviceable bearing for small shafts and general light machinery applications. Formed steel outer housing combines pleasing appearance with *strength* for all moderate service. Compact, fully self-aligning, effectively sealed to exclude dust and dirt, factory lubricated for life — and sealed both on and off the shaft. Flange units also. From Distributors' stocks in shaft sizes from 3/4" to 1-3/16". Write for Bulletin A-645A.

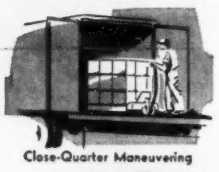
DODGE MANUFACTURING CORPORATION, 2100 Union St., Mishawaka, Ind.

DODGE of Mishawaka, Ind.

▲ For more details circle NED-778 B on enclosed inquiry slip ▲

This truck . . . suits 'em all


Short Hauls


Close-Quarter Maneuvering

Infrequent Handling

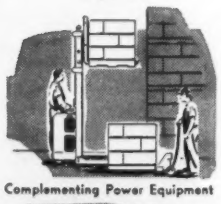
RAYMOND Lightweight Hydraulic PALLET TRUCK

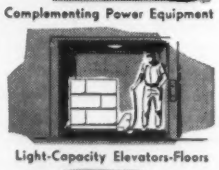
2,000 or 3,000 lb. capacities

WORLD'S MOST POPULAR pallet truck because it does so many jobs so well.

Superbly built to withstand years of use and abuse. Lightweight lessens operator fatigue. Easy to maneuver, easy to pull . . . patented booster roll permits effortless pallet entry. Convenient foot pedals lift and lower your load. Completely precision hydraulic for dependable operation.

Has aluminum alloy construction, husky one-piece welded steel frame, safe dual-purpose brake, 270° turning radius.


Complementing Power Equipment


Light-Capacity Elevators-Floors

In-Process Handling

Mail Coupon for full details!

The RAYMOND CORPORATION
4104 Madison St., Greene, N.Y.

☐ Send bulletin on Lightweight Hydraulic Pallet Truck.
☐ Please have a RAYMOND representative call.

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COMPANY
STREET
CITY STATE

▲ For more details circle NED-779 B on enclosed inquiry slip ▲

New Literature and Catalogs

Movable Partitions & Paneling

L. A. Darling Co., Workwall Div.—Four pastel color and four modern wood-grain surface finishes are listed as standard in 8-page No. 460 color reference guide to movable partitions in rail to ceiling heights. Baked-on melamine plastic finishes are abrasion resistant and easily cleaned with a damp cloth. The "workable wall" feature is detailed.

▲ For more details circle NED-780 B on enclosed inquiry slip ▲

Electric Power Drives

Sterling Electric Motors—Expanded to 68 pages, revised Catalog 258 includes over 8000 electric power drive ratings to facilitate selection. Included are prices, dimensions, and modifications for squirrel-cage motors, gearmotors, speed reducers, right angle gearmotors, and variable speed drives ranging from 4660 down to 0.2 rpm in variations from 2:1 to 10:1. Ratings range from 1/4 to 200 hp.

▲ For more details circle NED-781 B on enclosed inquiry slip ▲

Aspects of Electrical Contacts

General information on important aspects of electrical contact theory and practice is compiled in catalog to aid the design engineer. Sections cover services and facilities of company which produces precious metal contacts and assemblies, electrical contact phenomena, design factors, classification, contact material properties, and composite and laminated materials. Request on company letterhead to C. S. Brainin Co., 320 Washington St., Mt. Vernon, N. Y.

▲ For more details circle NED-782 B on enclosed inquiry slip ▲

Clutch Facings & Brake Linings

S. K. Wellman Co.—Products of every major American machinery producer using clutches are included in 104-page Catalog 60-T, a reference manual of Velvetouch and Velvetouch Feramic replacement clutch-plates, clutch facings, brake linings, and matched facing sets for tractors, and construction and material handling machinery. Further application data are provided by companion manual 60-R which cross-indexes all Velvetouch part and manufacturers' numbers.

▲ For more details circle NED-783 B on enclosed inquiry slip ▲

Electrical Products

Buchanan Electrical Products Corp.—Manufacturing and production Catalog 76 features sectional terminal pres-SURE-blocks, fanning strips, one-piece terminal blocks, solderless connectors for wire splicing and terminating, and one-piece squeeze-type connectors for nonmetallic sheathed cable. It points up speed and simplicity of assembling and changing either flat base or channel mounted blocks.

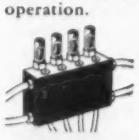
▲ For more details circle NED-784 B on enclosed inquiry slip ▲

GET THIS GUIDE TO GEAR LUBRICATION

IT'S NEW
IT'S COMPLETE
IT'S **FREE**

If you design, build or use equipment with large gears, Bulletin 60-A can save you time, money and headaches—provides complete information on Farval Spray Lubrication Systems available for manual or automatic operation.

Write today. You will receive a copy of Bulletin 60-A and the name and address of the Farval representative in your area who is prepared to help you select the proper Farval equipment for your machines.



THE FARVAL CORPORATION
3283 East 80th Street • Cleveland 4, Ohio
Affiliate of The Cleveland Worm & Gear Company, Industrial Worm Gearing.
In Canada: Peacock Brothers Limited.

▲ For more details circle NED-785 B on enclosed inquiry slip ▲

CUT SANDING COSTS . . . with Lightweight, FAST

MITY-MIDGET

Cut sanding costs as much as 75% (over hand sanding), with National's Mity-Midget . . . the original orbital action sander. Weighs only 4 lbs . . . yet has 25 sq. in. of abrasive area. Powerful . . . vibrationless. Write for complete catalog, today.

Write for complete catalog
NATIONAL-DETROIT, INC.
ROCKFORD, ILLINOIS

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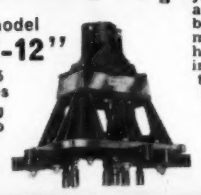
For LOW COST Hole Production Pick a MULTI-DRILL® to Fit the Job

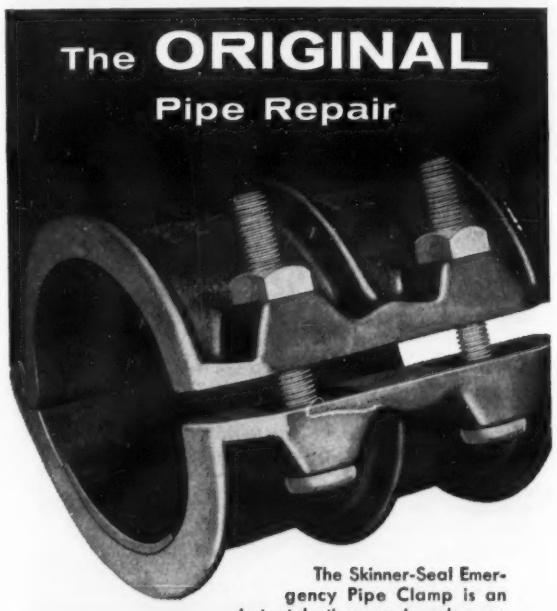


Commander MULTI-DRILLS—adjustable multiple spindle drill press attachments—are sold and serviced by a nation-wide network of Commander Distributors—experienced, helpful specialists in solving drilling and tapping problems. Write for the name of your nearest Distributor and the complete Commander Production Tool Catalog which contains full details on every MULTI-DRILL and many other production drilling and tapping tools.

Commander MFG. CO.
4220 W. Kinzie Street • Chicago 24, Illinois

▲ For more details circle NED-787 B on enclosed inquiry slip ▲

The ORIGINAL Pipe Repair



The Skinner-Seal Emergency Pipe Clamp is an instant, lasting repair under any operating condition. Rugged malleable iron. Anyone can apply in a few moments. Made in all sizes, 1/2" to 12", for steel and C. I. pipe. Stocked by practically all supply stores. The leading clamp for over 50 years.

M. B. SKINNER CO., South Bend 21, Ind. — Established 1898

▲ For more details circle NED-788 B on enclosed inquiry slip ▲

Severance ELECTRODE DRESSING CUTTERS

Used by many to re-condition Electrodes without removing from machines—

Down-time is Slashed!

Production is Increased!

Designed to fit most all popular Electrode Dresser power tools.

Special shapes quickly made up.

INVESTIGATE!

It may pay you much!

ASK FOR MORE INFORMATION TODAY!

MIDGET MILLS · CHATTERLESS COUNTERSINKS · BALL SEAT REAMERS · CARBIDE END MILLS · INSIDE DEBURRING CUTTERS · OUTSIDE DEBURRING CUTTERS · TUBE END DEBURRING CUTTERS · CARBIDE HAND FILES · HAND DEBURRING CUTTERS · DISC CUTTERS · DRILL COUNTERSINKS · SPECIAL CUTTERS · REGRINDING SERVICE

Severance TOOL INDUSTRIES INC.
761 Iowa Ave., Saginaw, Michigan
SAGINAW, MICHIGAN

▲ For more details circle NED-789 B on enclosed inquiry slip ▲

no slip
no slide
no skid

...with A. W. ALGRIP abrasive flooring

- **complete safety** . . . safe footing under most hazardous conditions—on flat or inclined surfaces.
- **long life** . . . patented process embeds abrasive to controlled depth for lasting safety.
- **versatile flooring** . . . can be used as independent flooring or as flooring overlay.
- **unique material** . . . world's only rolled steel abrasive floor plate.

Put your plant on a safe footing . . . with A. W. ALGRIP. Approved for safety by Underwriters' Laboratories. **Write for Bulletin AL-2.**

ALAN WOOD STEEL COMPANY
Conshohocken, Pa.
Manufacturer of A.W. Super Diamond Rolled Steel Floor Plate.

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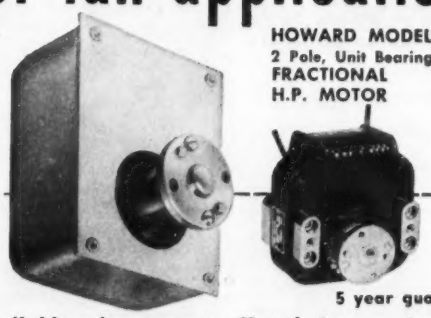
THE CHOICE OF LEADING MANUFACTURERS

for fan applications



HOWARD MODEL 1085
2 Pole, Unit Bearing
FRACTIONAL H.P. MOTOR

5 year guarantee

Available with Open or Closed Construction

MOUNTING: From rear or by special pads on front.
BEARING: Single, long-life, permanently lubricated.
STATOR: Vacuum varnish impregnated coil on molded nylon bobbin.
ROTOR: Dynamically balanced for ultra-quiet operation.
ROTATION: Unidirectional (CW or CCW as specified).
SHAFT-HUB: Assures positive and accurate location of connecting part (fan) which must run concentric. Can also be furnished with shaft extension from hub.

HP: 1/750 to 1/185
NO LOAD RPM: 3400
FULL LOAD RPM:* 2600-3200
INPUT WATTS: 8-30
VOLTS: 115 V. 60 cy. AC std.
*Lower full load speeds also available.

Send us your specifications or write for complete catalog.

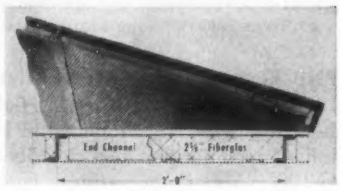
POWERED BY HOWARD

HOWARD INDUSTRIES, INC.
1740 State St., Racine, Wisconsin
Divisions: Electric Motor Corp., Cyclohm Motor Corp., Racine Electric Prods., Loyd Scruggs Co.

▲ For more details circle NED-791 B on enclosed inquiry slip ▲

New Processes and Materials

PREFABRICATED WALL PANEL
acoustic type for partitioning



Prefabricated, flush-type metal wall panel, with sound absorbing glass fiber element between its two metal surfaces, partitions areas where noise reduction is required. Panels are made in 2-ft wide sections, in 2 or 3 in. thicknesses with choice of galvanized or cold rolled steel primed with baked enamel. The 2-in. panel has noise reduction coefficient of 0.70; the 3-in. panel, 0.90. Panels are perforated on one side. Steel channels welded into ends give reinforcement. • **R. C. Mahon Co.**, Building Products Div., E. Eight Mile Road, Detroit 34, Mich.

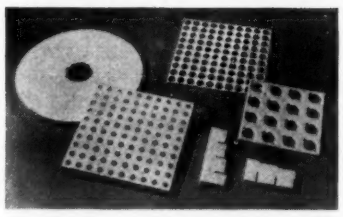
▲ For more details circle NED-792 B on enclosed inquiry slip ▲

HEAT TREATING ADDITIVE
prevents scale formation on steels

Decarburization and scale formation on carbon steels are controlled and minimized by automatic injection of a carbon potential liquid under pressure during operation of heat treating furnaces. Formulated for use with luminous wall, gas-fired furnaces, the fluid supplies a supporting atmosphere which burns up excess oxygen. The amount injected is governed by the size and rating of the furnace. Any of several grades is used in processing steels with carbon contents from 0.2 to 1 per cent. • **A. F. Holden Co.**, 14341 Schaefer Highway, Detroit 27, Mich.

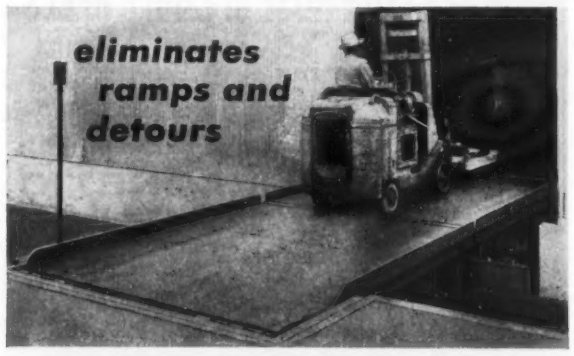
▲ For more details circle NED-793 B on enclosed inquiry slip ▲

CUSHIONING MATERIAL
nonabrasive and nondusting



White-colored, lightweight Resilo - Pak internal cushion packaging material is clean, highly resilient, and retains its physical characteristics from −85 to 175° F. The neutral pH material is dimensionally stable at normal temperatures, and is nonabrasive, nondusting, and nonhygroscopic. It can be die cut to form cushioning or positioning shapes for packaging many types of delicate products. Three grades are available in thicknesses from 1/16 to 20 in. with 1/16-in. increments. • **Armstrong Cork Co.**, 1270 State St., Lancaster, Pa.

▲ For more details circle NED-794 B on enclosed inquiry slip ▲



NEW ROWE Crossover Bridge Saves Time . . . Requires No Costly Excavation

• Take the short cut to faster, safer and cost-saving straight-line material flow with a new ROWE bascule-type crossover bridge. Push button controlled from either side and electric-hydraulic operated, the crossover bridge is available in double or single leaf designs. The unit shown is designed for loads up to 25,000 lbs. Easy and inexpensive to install, the actuating cylinders are mounted on grade level.

FEATURES:
- Heavy all steel welded construction
- Width and length to fit
- Safety curb
- Adjustable, hinged legs
- Non-skid or smooth deck plate

Manufacturers of dock and truck leveling devices and crossover bridges.

ROWE METHODS, inc. WRITE FOR DETAILED LITERATURE
2534-E DETROIT AVE. • CLEVELAND 13, OHIO

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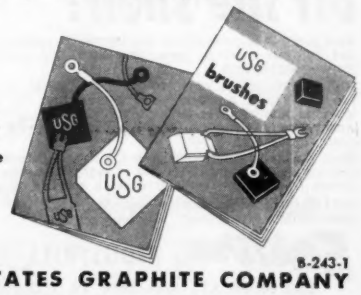
USG® BRUSHES

The solution to many major or minor brush problems can be solved with United States Graphite Company's USG Brushes. The shunt connections are permanent. Sizes are accurate for each application from fractional horsepower to locomotive diesel generator. Grades include carbon, carbon-graphite, electrographilitic, graphite, metal-graphite and silver graphite.

There is helpful, useful data in the complete but CONCISE USG Brush catalog B-56 and the USG grade list. Write for your copies today.



B-243-1

THE UNITED STATES GRAPHITE COMPANY
DIVISION OF THE WICKES CORPORATION • SAGINAW 10, MICHIGAN

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HANG ON—*for all time*

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How to put an end to excessive re-roping costs—use Electroline fittings.

- **rope lasts longer—exclusive Electroline fittings damp vibration, real trouble-insurance**
- **easy to put on—just ordinary tools, no molten metal**
- **use them over and over**

It's a complete line—a type and size for every need. Get the whole money-saving story—send for handy illustrated catalog.

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THE SUPERIOR SWITCHBOARD & DEVICES COMPANY
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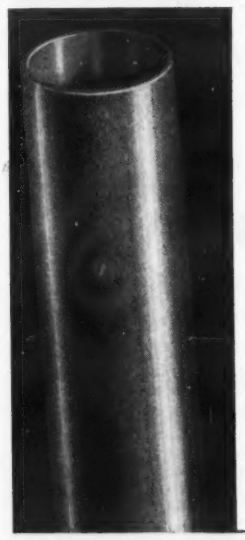

NEED DRAWN or EXTRUDED ALUMINUM TUBE?

WRITE

WOLVERINE TUBE
DIVISION OF CALUMET & HECLA, INC.
17272 Southfield Road
Allen Park, Michigan
Manufacturers of Quality Controlled Tubing and Extruded Aluminum Shapes

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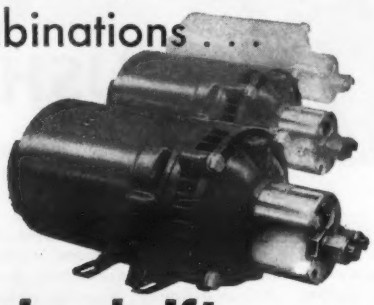
129 CUSTOM
hydraulic pump and motor combinations . . .



off the shelf!

Here are power sources for **any** hydraulic application. Commercial, military, and aviation research have developed this array of **standard** pump and motor combinations.

With a performance range from .1 to 5 G.P.M. at pressures to 2000 P.S.I., you can expect a stock power source that fits your requirements. Many types of motors offer a choice of electrical characteristics, and are drip-proof, totally enclosed, or have explosion-proof enclosures as required.

When you need custom equipment, call on Eastern and discover how this adaptable line of hydraulic pumps and motors fills the bill without research expense by you.

For full performance data on pump and motor combinations, write for new Bulletin 810-X.

Eastern INDUSTRIES, INC.
100 SKIFF ST., HAMDEN 14, CONN.

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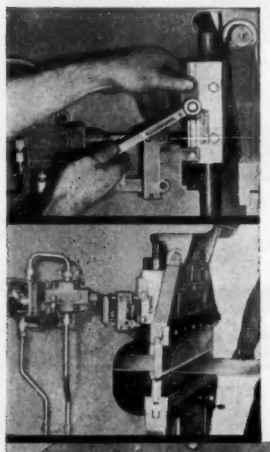
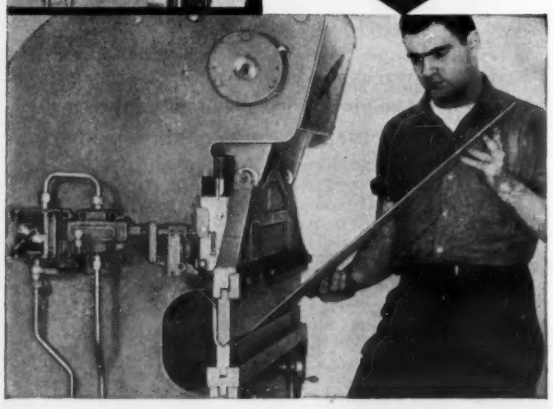


❶ Adjusting Letup Control takes only seconds

❷ Ram speed reduced 50 per cent as die enters sheet

❸ After "form" part of stroke is complete ram resumes maximum speed on return stroke. Operating cycle with Letup Control is Rapid Travel to Work—Slow Form—Rapid Travel on Return Stroke.



Letup Control on New High Speed
HYDRAULIC PRESS BRAKE

★ *Eliminates whipping of material when forming*

★ *Makes for fast, safe forming of large sheets*

DI-ACRO HYDRA-POWER PRESS BRAKE

An adjustable flow control valve is the basic element in the Letup Control, an accessory for all Di-Acro Hydra-Power Press Brakes.

Models with 3′, 4′ and 6′ bed and ram have Stroke Adjustment, speed from 32-80 strokes per minute, capacities of 16, 18 and 20 gauge mild steel. These and other *features exclusive to hydraulic press brakes* spell out *Efficient, Safe* operation for a rapidly growing list of satisfied customers.

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Consult the yellow pages of your telephone directory under machinery, machine tools for the name of your Di-Acro distributor or write us for Quick Facts Folder describing this and other Di-Acro Machines.

di-acro PRECISION METALWORKING MACHINES

pronounced die-ack-ro

O'NEIL-IRWIN MFG. CO.
354 8th Avenue • Lake City, Minnesota

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New Literature & Catalogs

Multipurpose Dumpers

Essex Conveyors, Inc.—Multipurpose dumpers reviewed in 8-page Catalog 59 can lift all standard and special containers and dump all free-flowing bulk material into any type of receptacle. Load capacities and dumping heights of these dumpers are limited only by practicability of the application.

▲ For more details circle **NED-801 B** on enclosed inquiry slip ▲

PNP Germanium Phototransistors

General Transistor Corp.—High speed response and high sensitivity are combined in PNP germanium alloy junction phototransistors described in 8-page Brochure G-190. Maximum ratings, cutoff and small signal characteristics, mechanical data, light sensitivity, chopped light frequency response, photo spectral response, and noise considerations are covered.

▲ For more details circle **NED-802 B** on enclosed inquiry slip ▲

Laminated Plastics & Vulcanized Fiber

Taylor Fibre Co.—Basic application and engineering data on laminated plastics and vulcanized fiber given in 8-page condensed catalog will aid engineers in selecting these basic materials for electrical, electronic, and mechanical components. More than 50 plastic grades and six fiber grades are available to meet any requirement.

▲ For more details circle **NED-803 B** on enclosed inquiry slip ▲

High Temperature Fasteners

Elastic Stop Nut Corp.—80-page Catalog 5918 is a guide to the selection of self-locking nuts suitable for applications over 800° F. Technical data cover high temperature terminology and such phenomena as stress rupture, creep, and relaxation strength. Over 50 pages of full dimensioned drawings of stop nuts, indexed as to temperature range, are included.

▲ For more details circle **NED-804 B** on enclosed inquiry slip ▲

Bi-Metallic Casting

Arthur Tickle Engineering Works, Inc.—"Bi-Metallic Casting by Tickle" is an 8-page guide to molecular bonding of dissimilar metals by the patented Al-Fin process. Brochure illustrates various bonded bi-metallic applications and includes a representative selection of Al-Fin constructions in diverse industrial fields.

▲ For more details circle **NED-805 B** on enclosed inquiry slip ▲

V-Type Molded Packings

Greene, Tweed & Co.—Second in a continuing series of technical manuals on Palmetto molded packings, 8-page Booklet PY-959 presents the Palmetto Pyramid, an advanced form of V-type molded packings. Pyramid consists of three or more nested rings—a flat bottom adapter, a flat top adapter, and the required number of V-sealing rings. Engineering and dimensional data are given.

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GLEASON HOSE or CABLE REELS with TORMAG MAGNETIC COUPLING provide

- *Frictionless, Shockless Drive*
- *Dependable Controlled Torque*
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Now Reel users can have the widest possible choice of drives for their Gleason Reels. Depending upon the duty cycle, Gleason can recommend the best reel drive — Spring Motor, Electric Torque Motor, Tormag — and if you require several hoses and cables in the same carrier to supply air, liquids and power to equipment in motion, Gleason also has the Powertrak Carrier.

For The Complete Answer To All Your Problems of Supplying Air, Liquids, or Electric Power To Your Equipment In Motion, Write

Gleason Reel Corp
Dept. A, 800 Horicon St., Mayville, Wis.
SPRING REEL HEADQUARTERS FOR ALL INDUSTRY

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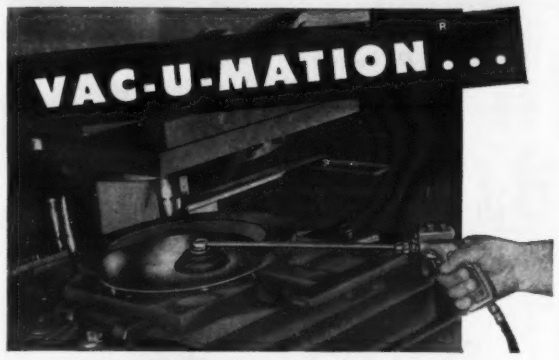

. . . offers you SAFETY and economy of feeding and ejection

PRES-VAC SAFETY FEEDERS feed blanks to press from a safe distance of 14 inches—BY AIR!—maximum protection to operators and handling costs kept at a minimum. Save those fingers. $35.00

AIR BLAST VALVES eject parts safely with each stroke of the press—BY AIR! Save those hands. $29.00

Write for NEW Catalog!

4583

LITELL VAC-U-MATION DIVISION
4169 Ravenswood Avenue, Chicago 13, Ill.
District Offices: Detroit and Cleveland

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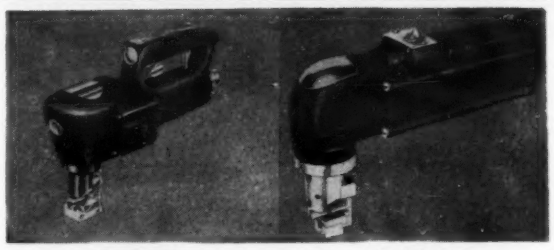

Model AN Model LN

CUT YOUR METAL CUTTING COSTS 75%, USE THE FENWAY POWERFUL, PORTABLE NIBBLER WITH THE BIG PUNCH

INCREASE PRODUCTION! Save Metal Waste! Eliminate Finishing Operations!

Portable FENWAY NIBBLERS (air powered or electric) are easily moved to the cutting job (wt: 8-13 pounds according to model)—You can cut up to five feet per minute without distortion. Your metal waste is cut to a minimum—No grinding or buffing to finish off. Fenway Nibblers cut up to 8 gauge mild steel or 10 gauge stainless. Easily converted to cut corrugated sheeting, small diameter ducts, formed sheet metal pipe, tough pitch or asbestos coated corrugated steel—consistent smooth edges, no curling, no chipping, no flaking. Investigate this powerful, durable time saving nibbler. Easy to handle, minimum maintenance, unconditionally guaranteed. ¼″ nibbler now available.

WRITE TODAY FOR FREE DEMONSTRATION

FENWAY MACHINE CO., INC.,
3107 N. Broad St., Phila. 32, Pa.

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NEW Low-Cost Sweeper

Out-performs any other sweeper of its size

CLEANING A 34″ PATH, the efficient new Tennant "40" sweeps congested areas at normal walking speeds.

IT'S FAST . . . Sweeps 2 to 5 times faster than a man with a broom—and *equals "big sweeper" standards of cleanliness!*

Operating at speeds to 3 mph and cleaning a 34″ path, the compact MODEL 40 can sweep over 2,000 sq. ft. in 5 minutes . . . averages 8,000 to 20,000 sq. ft. per hour in most plants.

IT'S EASY TO USE in crowded, congested areas; turns in its own tracks! Propels itself . . . you merely guide it. Space-saving design (33″ clearance) is ideal for narrow aisles.

SWEEPS EXTRA CLEAN . . . gives results *never possible before in sweepers of this size!* Powerful vacuum-and-brush system gets fine dust that brooms miss . . . draws dirt from many cracks. Assures almost 100% "dust-free" work.

You'll want to learn more about the unusual new TENNANT Model "40" Sweeper. Write for full information *today!*

TENNANT *Industry's Most Widely Used* **POWER SWEEPERS**

G. H. Tennant Company • 7158 N. Lilac Drive • Minneapolis 22, Minnesota

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FOR SALES ATTRACTION STANDARDIZE ON SOUTHERN SCREWS

Give your products more sales **attraction** by **standardizing** all your fastener requirements on quality screws by Southern. Constant quality control assures constant uniformity.

Eliminate rejects due to inferior screws, minimize materials damage or loss, cut down on production slow-ups. **Standardize** on Southern Screws as your one source for every fastener need.

Send your order or request for quotations to Southern Screw Company, P. O. Box 1360, Statesville, North Carolina. Or call your Southern Screw jobber.

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Machine Screws & Nuts • Tapping Screws • Wood Screws • Stove Bolts Carriage Bolts • Dowel Screws • Hanger Bolts • Drive Screws

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From Seattle to Sydney, from Boston to Bombay, those who demand the best insist on Kerotest. These quality valves have been in service around the world for 50 years. For best service in your applications, always specify Kerotest.

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KEROTEST MANUFACTURING COMPANY
2522 Liberty Avenue, Pittsburgh 22, Pa.
In Canada, Kerotest products are manufactured and distributed exclusively by Guelph Engineering Company, Guelph, Ontario.

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THE "Write" LABEL... *Anywhere!*

Use Labelon "Write on it" Tape to label stockroom shelves, bins, tools, hard-to-mark parts; for indicating rejects and service department repairs; for marking laboratory equipment, supplies, experiments; for panel boards or wiring; for office files, folders, etc.

For samples and prices, see your dealer or write Dept. NED-2

LABELON TAPE CO., INC.
450 Atlantic Ave., Rochester 9, N. Y.

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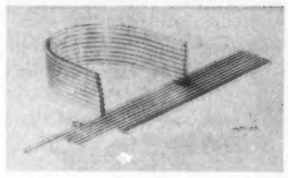
New Processes & Materials

CLEAR VINYL TUBING
supplied in 10-tube tape-like strips



Twelve stock sizes ranging from 1/32 to ½-in. ID are offered in Strip-a-Tube clear vinyl tubing furnished joined together in 10 - tube, tape - like strips. In this form tubing can be used in low pressure fluid distribution systems, multipressure measurement applications, and as harness in electronic consoles. Individual tubes can be stripped or separated from main body at any desired point. Standard strip length is 100 ft. Tubing is also available in translucent colored vinyl. It is self-extinguishing and impervious to acids, alkalies, and organic solvents. • **Electric Storage Battery Co.**, Jessall Plastics Div., Kensington 3, Conn.

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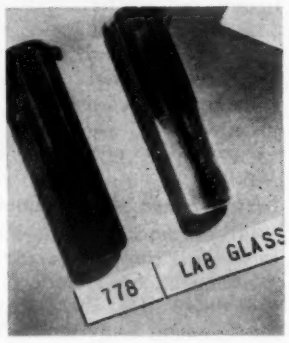
METAL-MARKING INKS
five water-soluble colors offered

Line of metal-marking inks for industrial color coding or inventory control of metal rods and strips is offered in black, blue, yellow, red, and orange colors. They are water soluble and can be washed off without damaging metal finishes. Basic types are nonetching spotting inks for tool and die makers; fast drying stamping inks; and a special stamping ink which can be quick-set by heat-treating. The last type is water-soluble only while moist, and becomes permanent after drying. Inks are packaged in 1-pt and 1-gal cans. • **Ink Specialties Co.**, 7719 W. Van Buren St., Forest Park, Ill.

▲ For more details circle **NED-815 B** on enclosed inquiry slip ▲

CORROSION RESISTANT GLASS
lining for vessels, reactors, tanks



Demands of process industries for higher operating temperatures to accelerate chemical reactions and the process utilization of corrosive acids and alkalies are met by Glascote 778, a newly developed glass. Used as a lining for vessels, reactors, storage tanks, and rotary dryer-blenders, it exhibits high resistance to sulfuric, nitric, and hydrochloric acids, along with good thermal shock resistance. Glass permits up to a 75° F increase in acidic reactor operating temperatures. Properties exceed those of boro silicate type laboratory glass. • **Glascote Products, Inc.**, 20900 St. Clair Ave., Cleveland 17, Ohio.

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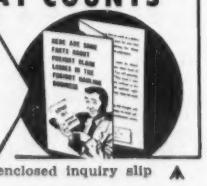
HAVE YOU CHECKED THE READABILITY OF YOUR SHIPMENT ADDRESSING LATELY?

COMPARISON OF READABILITY FROM A DISTANCE OF SIX FEET.

In this day of increased freight rates caused by freight claims due to lost shipments it's time to take a close look at your shipment addressing. Are you getting clear, readable, large letter results? If not you should be interested in better addressing through the use of machine cut stencils. Keep this in mind — regardless of how you apply your address — it must be read easily by freight handlers.

IT'S THE RESULT THAT COUNTS

For a peek into what improper marking is costing you send for this FREE booklet of facts today. WRITE TO
DIAGRAPH-BRADLEY INDUSTRIES, INC.
P. O. BOX 269 HERRIN, ILL.



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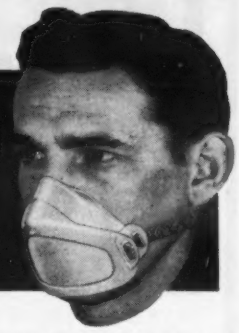
FLEX-A-FOAM DUST MASKS



Here's everything that management and worker alike could possibly want in a dust respirator!

1. **Form-fitting design:** Self-adjusting to any size and shape of face without pressure or irritating discomfort.
2. **Attractive styling:** Smartly designed to suit the most discriminating wearer.
3. **Filtering efficiency:** Filters non-toxic dusts 100 times smaller than the eye can see.
4. **Easy-breathing comfort:** Easier to breathe through and talk through than an ordinary pocket handkerchief.
5. **Feather-like weight:** Weighs only 1 ounce complete.
6. **Simplicity and economy:** Only 4 tough, long-wearing, inter-locking parts — all washable. Pure latex filter outwears throw-away type more than 100 to 1.

No wonder FLEX-A-FOAM is the one dust respirator workers welcome and WEAR!

Sample only $1.45 postpaid (Industrial price only)

FLEX-A-FOAM DUST MASK
FLEXO PRODUCTS, INC.
Westlake, Ohio

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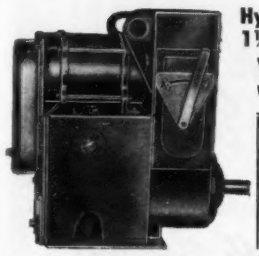
SAVE! Brand New Surplus Gov't Cost $3750.00



Hydraulic 1½ H.P. **TRANSMISSION**
VARIABLE SPEED 0 to 350 RPM
with Instantaneous Reversing

Only $147.50 fob
COMPLETE with MOTOR
220 Volt, 60 Cy., 3 Ph., A. C.

Now own this Heavy Duty Machine at a fraction of its true value!
SATISFACTION GUARANTEED or MONEY BACK!

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- Machine Tool Drives
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1½ horsepower capacity (continuous duty). Complete with totally enclosed motor, 220 volt, 60 cy., 3 ph., AC. Output speed reversible in either direction from 0 to 350 RPM. Forward and reverse speeds can be the same or different. Speed is smooth and constant. Ideal for continuous reversing! Precise effortless speed selection. Neutral off position. Controls easily altered for remote control. Ball and Roller bearing throughout. Extremely compact and self contained; size 21½" L, 9" W, 20½" H. 200 lbs. Output shaft 1" dia. 2½" long with standard keyway. Shipped complete with full instructions and service manual.

Other motors optional at additional cost. 220/440 V., 60 Cy., 3 Ph. .....add $37.50
220 V., 60 Cy., Single Ph. .....add $36.75

SUPPLY LIMITED! ORDER DIRECT FROM THIS AD

Write, wire or phone TAYLOR 9-1365

ROBERTS ELECTRIC COMPANY, Dept. ND-12
849 W. GRAND AVE. CHICAGO 22, ILL.

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ALLENAIR CORP., 255 East 2nd St., Mineola, N. Y.

Name .....
Company .....
Address .....
City ..... Zone ..... State .....
NED-2

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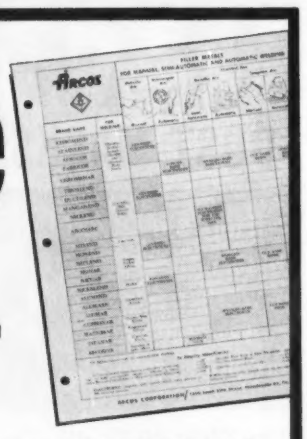
free



new filler metals chart simplifies selection of welding rods and electrodes

Tells at a glance the type rod or electrode to use for welding stainless, low alloy, non-ferrous and light metals. Covers manual, automatic and semi-automatic welding. Includes data on coated electrodes, coiled and spooled bare electrodes, cut bare rods, spooled bare wire, flux cored electrodes and bonded fluxes. Reverse side packed with AWS standard welding symbols and descriptions in handy form. SEND TODAY! ARCOS CORPORATION, 1500 South 50th Street, Philadelphia 43, Pa.

ARCOS | Filler Metal Specialists

For more details circle NED-821 B on enclosed inquiry slip

CARING FOR WAXED FLOORS IS . . .

A cinch with Sanax

It waxes as it cleans!

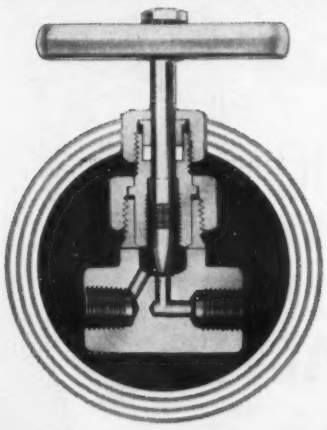
REDUCES THE FREQUENCY OF REFINISHING

Sanax was developed to permit frequent cleaning of waxed floors *without washing away the finish* . . . and to eliminate waste in wax and labor. A neutral liquid soap with a wax base, *Sanax* not only quickly removes dirt, oil, and grease, but *leaves a thin film of wax*—a lustrous anti-skid protective finish. *Safe for all floors.* Highly concentrated . . . economical to use. For consultation, literature, or demonstration, phone or write nearest *Finnell Branch* or Finnell System, Inc., 5502 East St., Elkhart, Ind.

For machine-scrubbing or damp-mopping waxed floors

FINNELL SYSTEM, INC. Originators of Power Scrubbing and Polishing Machines — FINNELL — BRANCHES IN ALL PRINCIPAL CITIES

For more details circle NED-822 B on enclosed inquiry slip



SOLVE YOUR METER MANIFOLD AND CORROSIVE FIELD SERVICE PROBLEMS

AMERICAN® NEEDLE VALVES

Teflon-packed forged steel American Needle Valves eliminate gland leaks, deliver dependable service under the toughest conditions. Stainless or carbon steel precision machined valve bodies are ideally suited for welding. Stainless steel centerless-ground valve stem design makes it simple to repack valves under pressure.

Standard valves design rated for pressures to 5,000 psi at 70°F. Upon request, assembled valves are hydrostatically tested to 10,000 psi (twice rated working pressure) and are individually inspected. Valves also furnished with graphite-impregnated asbestos packing for temperatures above 450°F.

Angle or straight patterns—screwed or union bonnets.

Your American Meter representative will give you full details.

AMERICAN® METER COMPANY (INCORPORATED ESTABLISHED 1836)
General Offices: Philadelphia 16, Pa.
Sales Offices in Principal Cities

For more details circle NED-823 B on enclosed inquiry slip

New Literature & Catalogs

Switches, Relays & Potentiometers

Hamlin, Inc.—Sensitive tilt mercury switches, dry reed switches and relays, magnetically actuated switches, mercury-wetted contact switches, and gravity sensing electrolytic potentiometers are detailed in illustrated catalog which includes prices. Ratings are from 0.5 to 6 amp, 120 v ac.

For more details circle NED-824 B on enclosed inquiry slip

Metal Stampings

Rockwell-Standard Corp., Stamping Div.—Facilities of this company for producing heavy to light metal stampings and welded assemblies, tailored to customers' needs, are described and illustrated in booklet "Bossert Metal Stampings." Designing and tooling skills are covered and many typical parts produced are shown.

For more details circle NED-825 B on enclosed inquiry slip

Overhead Door

Barber-Colman Co., Overdoor Div.—Model 33 commercial-industrial Overdoor and its Weather-King flush sections or panel sections are described in illustrated Bulletin 16-D1. It is offered with electric operators and special controls. Solutions are given for special installation problems.

For more details circle NED-826 B on enclosed inquiry slip

Self-Retaining Fasteners

Robin Products Co.—Expanded line of standard self-retaining metal assembly fasteners is subject of illustrated bulletin. They are suited for appliances, automobiles, aircraft, toy, farm implement, and other uses. Special types are for installing paneling, tubing, wiring, and molding, and for sheet metal fabrication.

For more details circle NED-827 B on enclosed inquiry slip

Multipoint & Multidiameter Tooling

Valenite Metals—How the V.B.U. system of tooling cuts costs and speeds production on complex multipoint and multidiameter tooling is explained in 24-page catalog. Range of styles and sizes, including positive, neutral, and negative rakes and varying lead angles, are listed. Dimensional drawings illustrate each style of cutter body, cartridge, insert, and accessory.

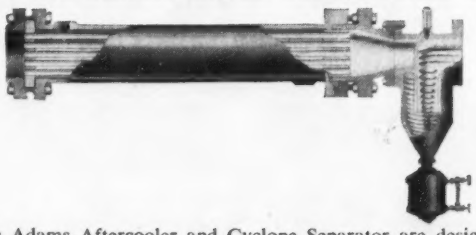
For more details circle NED-828 B on enclosed inquiry slip

Temperature Measurement & Control

Process and design engineers are supplied with a perspective view of the industrial temperature control field and an explanation of how Partlow fits into the field in 23-page "Guide to Industrial Temperature Measurement and Control." Many charts, drawings, and diagrams are included. Basic concepts of electrical, pneumatic, and mechanical controls, circuits and piping arrangements, and principles of mercury-bulb installation are among subjects. Request on company letterhead from Partlow Corp., 532 Campion Rd., New Hartford, N. Y.

For more details circle NED-829 B on enclosed inquiry slip

Aftercooler and Cyclone Separator designed for cleaner, dryer compressed air



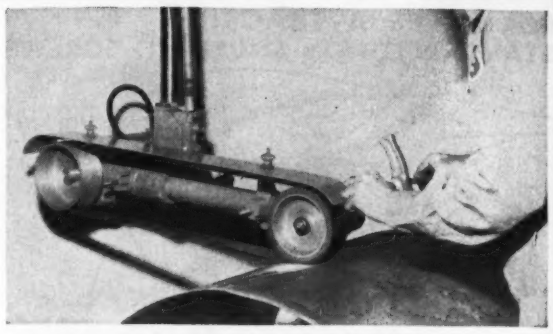
The Adams Aftercooler and Cyclone Separator are designed to efficiently condense and remove water from compressed air and process gas. Condensed moisture and entrained dirt and oil are subsequently removed in a cyclone type separator. This unit is scientifically designed for maximum removal efficiency over a wide range of flow rates.

For normal use, units are available to cool gases to within 10° F of the temperature of the cooling water. Specially designed units are available to permit a 2° F approach to cooling water temperature, for application where low moisture content is critical.

Adams Aftercoolers and Separators are available from stock to handle 20 - 40,000 cfm with 10° cooling and 25 - 19,200 cfm where it is necessary to cool within 2°F of the cooling water. Special units can be supplied to suit an unlimited range of requirements. In all cases the maximum pressure loss at rated capacities is ½ psi.

This wide range of sizes enables the economical utilization of Adams Aftercoolers and Separators in virtually all industrial application. For further information on how R. P. Adams' units will solve your compressed air problems and save you money, write today for Bulletin 711. R. P. Adams Co., Inc., 227 East Park Drive. Buffalo 17, New York. *Advt.*

For more details circle NED-830 B on enclosed inquiry slip



UNMATCHED IN ITS ADAPTABILITY

The effortless ease with which a weld seam is removed by the G & P 6-72 Belt Unit is just an example of this tool's adaptability. Whether suspended or on a stand there is almost constant work in any shop for this handy machine. It is simple in design, large in capacity, has unusual mobility and can be used for machine or off-hand finishing. Write for Price List and Bulletin No. 104.

Grinding and Polishing Machinery Corp.
SUCCESSORS TO VONNEGUT MOULDER CORPORATION
2630-J WINTHROP AVENUE, INDIANAPOLIS 5, INDIANA

For more details circle NED-831 B on enclosed inquiry slip

FOR AIR-DUST OR FUME CONTROL...

Get this FREE catalog

WRITE TODAY FOR CATALOG SHOWING NEW INDUSTRIAL APPLICATIONS

FLEXAUST hose and PORTOVENT retractable ducts are made of strong durable neoprene coated nylon or cotton fabrics, wire reinforced for suction or pressure uses. Sizes 1¼" to 36" i.d.

INSTALLED IN MINUTES . . . IN SERVICE FOR YEARS

THE FLEXAUST COMPANY
DEPT. NED-2 100 PARK AVE., NEW YORK 17, N. Y.
DISTRIBUTORS IN ALL PRINCIPAL CITIES

For more details circle NED-832 B on enclosed inquiry slip

NEW Top Quality...Low Price

BT FULLY HYDRAULIC PALLET TRUCKS

ONLY $350.00 (F.O.B. CHICAGO)

Now you can have quality at the lowest price of any hand operated, full hydraulic, fork-type Pallet Truck on the market. Designed to answer the majority of Pallet transportation problems, the 2,400 and 4,400 pound capacity Pallet Trucks are quality manufactured, extra-sturdy, yet light weight.

- SHORT WHEEL BASE
- ACCURATE STEERING
- 3¼" LOWERED HEIGHT
- EFFORTLESS OPERATION
- COMPACT
- 5" LIFT

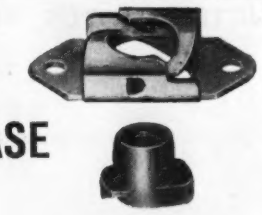
ORDER BY MODEL NO.
MODEL BT 24 — 2400 lb. Cap..... $350.00
MODEL BT 44 — 4400 lb. Cap..... $395.00
Both models available in 20" and 27" widths: 36", 42" and 48" lengths. Specify when ordering.
Dealer Inquiries Invited

Write • Phone • Wire

INDUSTRIAL HANDLING EQUIPMENT CO.
1221-23 W. Monroe St., Chicago 7, Ill. • MOnroe 6-8554

For more details circle NED-833 B on enclosed inquiry slip

ESNA® 1/4 TURN QUICK RELEASE FASTENER



Consider these unique advantages:

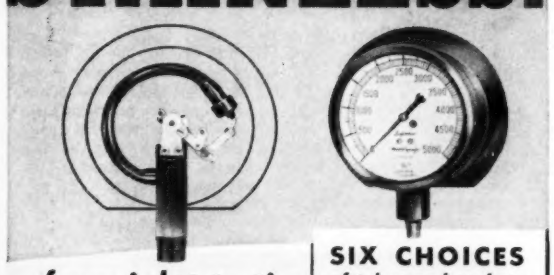
1. Two-piece unit consisting of a self-locking Elastic Stop nut as the latch-lock and a retainer basket.
2. Stop nut fits any standard 1/4"-20 bolt. User supplies bolt in head style to suit job needs.
3. When bolt is installed, the nut is held in basket and tightened to the exact setting required by structure thickness. Infinite adjustment possible for full threaded length of the bolt.
4. Eliminates inventory of multiple length studs.
5. Bolt-nut latch-lock can be tightened or reset at any time.
6. One quarter-turn lock and unlock action; high re-usability.

Available in 1/4"-20 size only. For complete design information write to Dept. S33—237

ELASTIC STOP NUT CORPORATION OF AMERICA
2330 Vauxhall Road, Union, New Jersey

▲ For more details circle **NED-834 B** on enclosed inquiry slip ▲

STAINLESS!



—from inlet to tip

Now the superlative Mastergauge is available in a wider range of corrosion resistant tubes and sockets than any other pressure gauge.

Check the adjoining list. And remember that tube socket and tip are fused into one piece by the exclusive Marsh "Conoweld" process.

Marsh alone combines the "Conoweld" construction, the copper-clad "Marshalloy" case, the finer Mastergauge movement, the Marsh "Recalibrator", the new "Safecase." Ask for data covering your specific needs.

SIX CHOICES
of tubes and sockets

4130 alloy steel tube with alloy steel tip and socket.
403 stainless steel tube with alloy steel tip and socket.
403 stainless steel tube with 416 stainless tip and socket.
316 stainless steel tube with alloy steel tip and socket.
316 stainless steel tube with 303 stainless tip and socket.
"K" Monel tube with Monel tip and socket.

MARSH INSTRUMENT COMPANY, *Division of Colorado Oil and Gas Corporation,* Dept. 26, Skokie, Ill. • Marsh Instrument & Valve Co., (Can.) Ltd. • 8407 103rd St., Edmonton, Alberta • Houston Branch Plant: 1121 Rothwell St., Sect. 15, Houston, Texas

MARSH "THE STANDARD OF ACCURACY"

▲ For more details circle **NED-835 B** on enclosed inquiry slip ▲

NEW SNAP GAGE

New Backstop Design
Four Sizes cover 0" - 4"
.0001" or .0005" grads. Range .060"

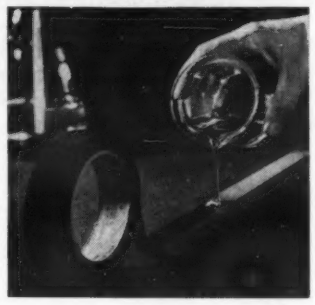
For descriptive Bulletin, write
FEDERAL PRODUCTS CORPORATION
6171 Eddy Street, Providence 1, R. I.

Ask **FEDERAL** *First*
FOR RECOMMENDATIONS IN MODERN GAGES . . .
Dial Indicating, Air, Electric, or Electronic—for Inspecting, Measuring, Sorting, or Automation Gaging

▲ For more details circle **NED-836 B** on enclosed inquiry slip ▲

New Processes & Materials

ELECTRICAL TAPE
glass cloth reinforced epoxy type



Scotch No. X-1099 electrical tape is a pressure-sensitive, flexible epoxy tape reinforced with a 0.002-in. glass cloth. Tape exhibits high resistance to cold flow, good conformability, high electric strength, and good physical properties. It is recommended for use at Class F operating temperatures. • **Minnesota Mining & Mfg. Co.,** Dept. S9-481, 900 Bush Ave., St. Paul 6, Minn.

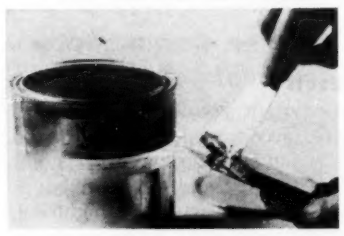
▲ For more details circle **NED-837 B** on enclosed inquiry slip ▲

GRINDING & CUTTING OIL
usable straight or blended

Wettability of Shear-Speed H-101 multipurpose cutting and grinding oil makes possible a good surface finish in machining of stainless steel, Monel, jet engine alloys, and other high alloy materials. It has a blend of saponifiables, sulfur, and chlorine, and may be used as an additive to improve extreme-pressure characteristics of general purpose cutting oils. It can be used straight or blended to the application. Absence of bacteria protects machine operators from skin irritations. • **Michigan Tool Co.,** Shear-Speed Chemical Products Div., 7125 E. McNichols Rd., Detroit 12, Mich.

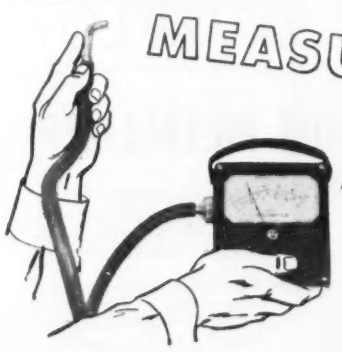
▲ For more details circle **NED-838 B** on enclosed inquiry slip ▲

PLASTIC PUTTY
strengthens sandwich structure edge



Vulnerable edges of lightweight honeycomb sandwich structures can be made rigid and strong by dressing them with Narmco 3150 plastic putty. It cures at room temperature into solid epoxy resin and will not buckle under loads imposed by rivets, screws, and other fasteners. Putty can be applied with putty knife or caulking gun and completely fills the open gap between the two sandwich skins. The two-part material consists of resin and liquid hardener which are mixed and applied immediately. It reaches Barcol hardness of 53 to 60 in 3 hr and can be drilled, tapped, or sanded. Cured putty can be used at up to 200° F with only slight loss of properties. • **Narmco Resins & Coatings Co.,** 600 Victoria St., Costa Mesa, Calif.

▲ For more details circle **NED-839 B** on enclosed inquiry slip ▲



MEASURE ACTUAL AIR DELIVERY with Alnor® VELOMETER

A simple, direct reading on the Alnor Velometer gives you instant measurement of actual air delivery in any distribution system. This fast, precise method eliminates the time and money wasted in trial-and-error balancing...the profit-eating call-backs so often necessary with other less precise measurements.

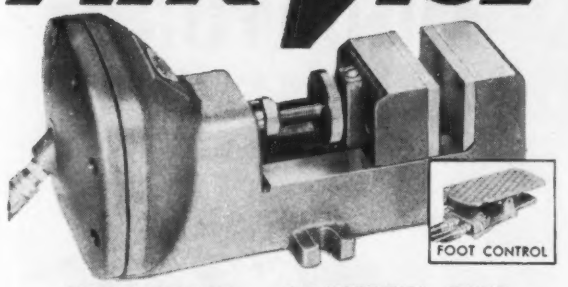
The Velometer is the only instantaneous, direct reading air velocity meter—accurate in all ranges, from high to low... compact, portable, easy to understand and use. Wide assortment of jets and fittings makes this precision instrument ideally suited for all air velocity measurement.

Take the recommendation of every major manufacturer of air diffusers and leading contractors—get an Alnor Velometer. Send for Bulletin 2448-G. Write: Illinois Testing Laboratories, Inc., Room 529, 420 No. LaSalle St., Chicago 10, Ill.

Alnor **PRECISION INSTRUMENTS FOR EVERY INDUSTRY**

▲ For more details circle **NED-840 B** on enclosed inquiry slip ▲

Speedy AIR VISE

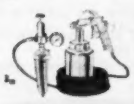


HIGH SPEED • POWERFUL GRIP

New, improved model speeds up all repeat operations—*milling, drilling, tapping, punching, bending, riveting.* Both hands left free to produce more! Light squeeze to 2250 pounds pressure! Extra thick jaws for attaching jigs. Jaws open to 3-inches; 1/16" to 5/8" maximum travel. Complete with foot control, air hose and fittings..... **$44.00**

SPEEDY AIR REGULATOR
Regulates pressures 0 to 140 lbs. No. 622 **$7.25**

SPEEDY AIR FILTER
Assures clean, oil-free air. No. 140 **$4.00**



SPEEDY UNIT
Production spray unit with Ext. Mix Gun. No. 705 **$26.50**

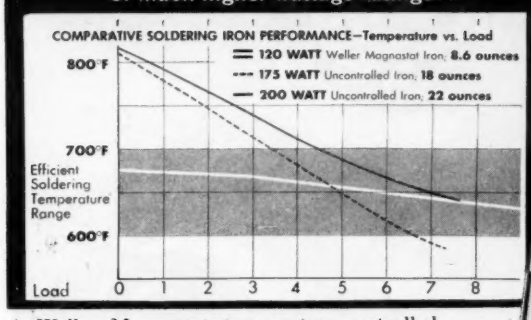
Order from Your Supplier or Write for Air Tool Catalog
W. R. BROWN CORP., 2647 N. Normandy Ave., Chicago 35
AIR TOOLS • AIR VISES • AIR REGULATORS • FILTERS • COMPRESSORS

▲ For more details circle **NED-841 B** on enclosed inquiry slip ▲

With less than HALF THE WEIGHT

Weller® MAGNASTAT SOLDERING IRONS

do the work of uncontrolled irons of much higher wattage ratings!



A Weller Magnastat temperature-controlled iron rated at 60 watts does the work of an uncontrolled 100 watt iron. A Weller 120 watt iron does the work of a 200 watt uncontrolled iron. And, Weller irons are less than half the weight. This is achieved by more efficient heat transfer, which also keeps the handle constantly cool!

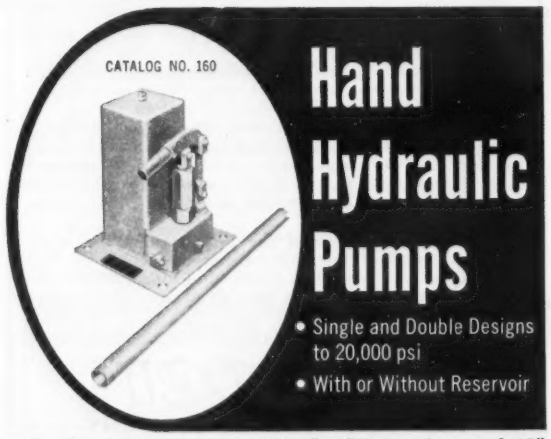
Available in 40, 55, 60 and 120 watt models, all with controlled temperatures—$9.00 to $11.50 list.

Send for Magnastat Catalog Bulletin

SOLD THROUGH FRANCHISED DISTRIBUTORS
A few franchised territories are available to qualified distributors. For details write to C. R. Robertson, Vice President.

WELLER ELECTRIC CORP.
601 Stone's Crossing Rd., Easton, Pa.

▲ For more details circle **NED-842 B** on enclosed inquiry slip ▲



160 cubic inch reservoir with 8"x 8" base plate and 18" long handle.

Available with optional size pistons 3/8", 1/2", 3/4", 1" and 1 1/2".

We specialize in the manufacture of hand pump units which operate in temperatures from −65° F. to +160° F. and with any capacity reservoirs required. Pumps can be furnished on special order with custom seals to handle various aircraft types of fuels such as Pydraul, Skydrol, Oronite, etc.

The single pump with 1/2", 3/4", 1" or 1 1/2" piston is now available in stainless steel.

for additional information write:

WILLIAM S. PINE
hydraulic hand pumps for 1001 uses
1635 East 22nd St., Los Angeles 11, Calif.

▲ For more details circle **NED-843 B** on enclosed inquiry slip ▲

for fastening small assemblies

specify **MOORE MINIATURE** headless slotted **SET SCREWS**

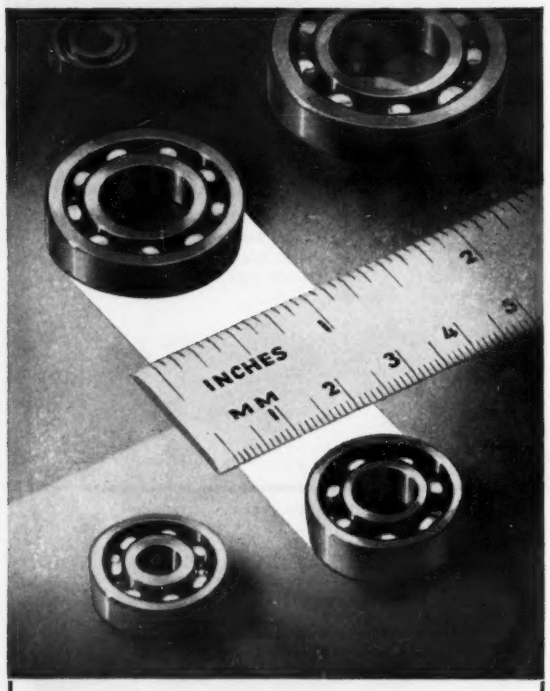
. . . simplify design, purchasing, production

Here's your fast, dependable source for Miniature Headless Slotted Set Screws. Available in sizes #0 through #4 in a wide selection of materials, finishes, lengths and points. These miniature set screws are made to the same accuracy and high quality standards as regular size Moore Set Screws.

Moore prices are right. Send for details.

MOORE SET SCREWS — George W. Moore, Inc. since 1880, 94 Beaver St., Waltham 54, Mass.

For more details circle NED-845 B on enclosed inquiry slip



NOW! *hoover quality* BALL BEARINGS IN INCH AND METRIC DIMENSIONS

Hoover Quality is featured in two new Hoover deep-groove bearing series. Now available in a complete range of sizes and modifications are R series bearings in inch dimensions, and extra small 30 series bearings in metric dimensions.

R SERIES are proportionately similar to conventional extra light and light series bearings except that bore, outside diameter and width are made to fractional inch dimensions. R series bearings are available in open, single shield or double shield types . . . bore sizes ⅛ to 1½ inch.

30 SERIES are designed for applications requiring bearings smaller than conventional extra light and light series ball bearings. Open, and single or double shielded or sealed types are available. Bore sizes range from 4 to 9 mm.

hoover BALL AND BEARING COMPANY
5400 South State Road, Ann Arbor, Michigan

Zone Sales Offices and Warehouses: 8581 South Chicago, Chicago 17, Illinois; 290 Lodi Street, Hackensack, New Jersey; 2020 South Figueroa, Los Angeles 7, California

Hoover Ball and Bearing Company NED-2
5400 South State Road, Ann Arbor, Michigan

☐ Please send a copy of Bulletin 112.
☐ Have your representative call.

Name_____
Title_____
Company_____
Address_____
City_____ Zone____ State____

For more details circle NED-846 B on enclosed inquiry slip

New Literature & Catalogs

Lignum-Vitae

Lignum-Vitae Products Corp.—Series of four 2 and 4-page bulletins describes lignum-vitae, a self-lubricating, low-friction, acid-resisting superhard wood brought from the tropics for use as roll neck bearings for hot roll finishing mills, Venetian blind pulleys, metal working mallets, spherical balls, elevator gibs, caster wheels and rollers, and many other components.

For more details circle NED-847 B on enclosed inquiry slip

Industrial Truck Safety

Automatic Transportation Co.—"Think Safety!" is theme of a series of 16 safety posters which illustrate how accidents involving fork trucks occur and how to prevent them. Each poster emphasizes the importance of safe driving practices by truck operators. The 11 x 17-in. posters are for wall or bulletin board display.

For more details circle NED-848 B on enclosed inquiry slip

Machine Tool Control

Hughes Products, Industrial Systems Div.—Transistorized Model 200 numerical machine tool control system described in 8-page brochure provides automatic positioning of a two-axis table from a preprogrammed punched tape. System is applicable to any machine requiring two or three-axis positioning, such as drilling machines, turning equipment, punch presses, spot welders, and eyelet inserters.

For more details circle NED-849 B on enclosed inquiry slip

Switches & Terminals

Ark-Les Switch Corp.—Revised 24-page catalog gives detailed information on multicircuit pushbutton switches and new multicircuit stack switches in addition to data on range heater, motor-reversing, toggle, and slide switches. It details handles, hardware, shaft styles, and terminals, and furnishes dimensional and wiring diagrams, circuit sequences, and electrical ratings.

For more details circle NED-850 B on enclosed inquiry slip

Hoist & Crane Products

Harrington Co.—More than 20 different kinds of cranes, hoists, and related accessory items are reviewed in 12-page Catalog R. Equipment shown meets virtually every overhead handling need encountered in metalworking, machinery, electrical manufacturing, chemical, utility, and other industries. Load capacities range from ¼ through 60 tons.

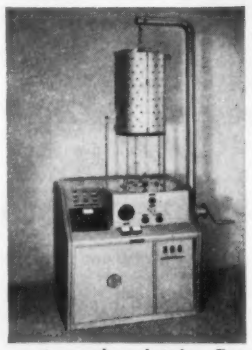
For more details circle NED-851 B on enclosed inquiry slip

Electronic Parts

The "1960 Guide to Electronic Buying" contains 312 pages and over 40,000 items, plus technical articles, engineering specifications, and many formulas, symbols, and schematics. Covered are radio and high fidelity equipment, electronic testing equipment, electronic hardware, and a multitude of components, including tubes, transistors, transformers, coils, and capacitors. Available upon letterhead request from Radio Shack Corp., 730 Commonwealth Ave., Boston 17, Mass.

For more details circle NED-852 B on enclosed inquiry slip

NEW VACUUM METALLIZER



- For research or small scale deposition of metals and salts on metals, glass, plastics, ceramics, etc.
- Permits multiple source evaporations and close control of filament voltage from 0 – 40 V.
- Power, high voltage, thermocouple, work positioning, etc. feed-throughs are easily relocated at any of 17 points.

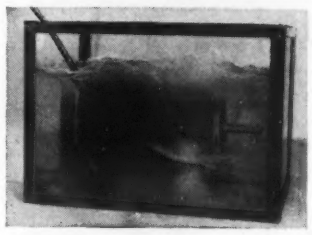
Packaged 35" x 48" x 112" unit is easy to install, operate, and maintain. Geared hoist takes work out of raising 18" shielded Pyrex or 24" O.D. mild or stainless 30" high bell jar. Vibration-isolated, 6" pumping system with optical baffle cold trap gives fast, "clean" pump-down to 10^{-6} mm. Hg. Write today for details on NRC Model 3144.

NRC EQUIPMENT CORPORATION

A subsidiary of National Research Corporation
Dept. 29-N, 160 Charlemont St., Newton 61, Massachusetts • DEcatur 2-5800

For more details circle NED-853 B on enclosed inquiry slip

ELECTRIC MOTOR, FULLY SUBMERGED, cleans itself as it runs in solvent

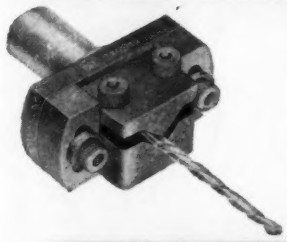


A new, safe motor cleaning solvent which is non - flammable, non-toxic, non-explosive and completely dielectric has been introduced under the trade name of MOTOR BATH by Ranco Industrial Products Corp., 13311 Union Ave., Cleveland 20, Ohio. The material is said to offer a completely revolutionary and entirely new concept to motor cleaning—that of submerging the entire motor in the cleaner and allowing it to clean itself by running electrically. Motors may be cleaned in this manner with a fraction of the time and cost of disassembly. MOTOR BATH may also be sprayed into large motors to clean them in place anywhere in the plant with complete safety. It dries without a greasy or oily residue; will not harm paint on motor housings; and has no effect, softening or otherwise on insulating materials. Motor Bath has no flash point or fire point.

Ranco Industrial Products Corp., 13311 Union Ave., Cleveland 20, Ohio. SKyline 1-6060 *Advt.*

For more details circle NED-854 B on enclosed inquiry slip

ACCURATE SET-UPS FAST!



Accurate, rapid set-ups the first time, every time . . . is the reason Brookfield Tool Holders are now widely used in practically every metalworking plant in the country. With one Brookfield Tool Holder, you can cut your stock of bushings by at least 100. Here's why:

BROOKFIELD TOOL HOLDERS

ADJUSTABLE V JAW holds wide range of tool diameters without bushings or accessories.

AXIALLY TRUE DESIGN makes perfect tool alignment almost automatic.

BALANCED-PRESSURE LOCKING ASSEMBLY maintains uniform seating, eliminates creep or shift.

EASY TO USE — just slip tool in the jaw, tighten, then float tool into dead center and lock.

AVAILABLE IN A WIDE RANGE OF SIZES

MODEL NO.	HOLDING RANGE	SHANK DIA.
BA-10	1/64"–5/16"	5/8"
DA-10	1/64"–1/2"	5/8"
DA-12	1/64"–1/2"	3/4"
GA-12	1/16"–3/4"	3/4"
GA-16	1/16"–3/4"	1"
KA-16	1/8"–1"	1"
KA-24	1/8"–1"	1 1/2"
PA-24	1/4"–1 1/2"	1 1/2"
PA-28	1/4"–1 1/2"	1 3/4"

WRITE FOR ILLUSTRATED CATALOG AND PRICES!

BROOKFIELD, INCORPORATED
STOUGHTON 114, MASSACHUSETTS

For more details circle NED-855 B on enclosed inquiry slip

THESE MUELLER BRASS CO. ENGINEERING MANUALS help you select the best materials and best methods of fabricating a product

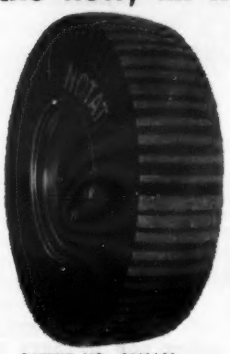
Mueller Brass Co. engineers have carefully selected and compiled the data contained in these technical manuals. Send for any or all of the free manuals that interest you; check appropriate box, clip out and mail with your return address.

☐ FORGINGS
☐ 600 SERIES BEARING ALLOYS
☐ COPPER BASE ALLOYS IN ROD FORM
☐ SCREW MACHINE PRODUCTS
☐ TUF-STUF ALUMINUM BRONZE
☐ COLD-PREST IMPACT EXTRUSIONS
☐ SINTEEL POWDER METAL PARTS
☐ FORMED COPPER TUBING

MUELLER BRASS CO. PORT HURON 37, MICHIGAN

For more details circle NED-856 B on enclosed inquiry slip

the new, all new NYLON NOTAT TIRE!



For a s-m-o-o-t-h ride, specify this improved NOTAT premium tire; softer rubber with Nylon assures easier riding, easier steering, no downtime, more traction and NO FLATS WITH NOTAT.

NO TUBE AIR TROUBLE

PATENT NO. 2901020

"WRITE TODAY FOR THIS OUTSTANDING INDUSTRIAL PNEUMATIC TIRE REPLACEMENT."

NOTAT TIRE COMPANY
1504 East 34th St. Chattanooga, Tennessee

▲ For more details circle NED-857 B on enclosed inquiry slip ▲

Wipco Wire Partitions
FIT ANY AREA

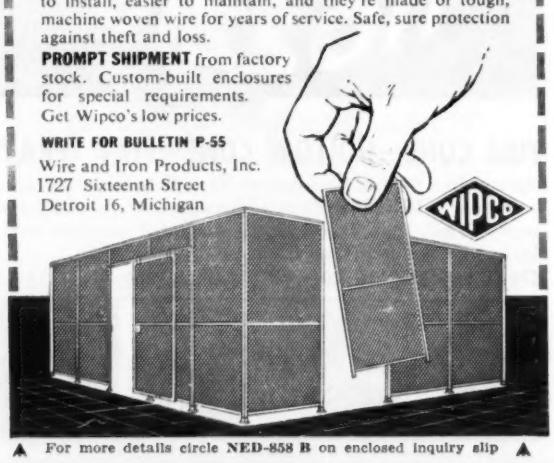
MOVEABLE—REUSABLE—FLEXIBLE! Standard sections in a variety of sizes for stock rooms, tool rooms, runways, etc. Each section a complete unit ready for erection. No special tools . . . no special crews. Your men install Wipco partitions quickly and easily. Future changes? Just disassemble and re-locate!

COST LESS THAN WOOD FRAMING AND WIRE NETTING Cheaper to install, easier to maintain, and they're made of tough, machine woven wire for years of service. Safe, sure protection against theft and loss.

PROMPT SHIPMENT from factory stock. Custom-built enclosures for special requirements. Get Wipco's low prices.

WRITE FOR BULLETIN P-55

Wire and Iron Products, Inc.
1727 Sixteenth Street
Detroit 16, Michigan



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FREE to Design Engineers

New Bulletin 200

Designing
WORM GEARS

24 pages of technical data and formulae with step-by-step instructions on the design and application of Cone-Drive double-enveloping worm gearing.

CONE-DRIVE GEARS
DIVISION MICHIGAN TOOL COMPANY
7171 E. McNichols Rd. • Detroit 12, Michigan

▲ For more details circle NED-859 B on enclosed inquiry slip ▲

New Processes & Materials

SOLDERING FLUX for use on stainless steel

Amco No. 121 free-flowing soldering flux removes oxides and prevents re-oxidation of both base metal and solder. It is compounded for use on all types of stainless steel and noncorrosive alloys. Good wetting effect allows tin-lead solder to flow freely at minimum temperature. Metal will not buckle or discolor. Flux is packaged in 1-gal polyethylene containers. • **American Solder & Flux Co.**, 19th & Willard Streets, Philadelphia 40, Pa.

▲ For more details circle NED-860 B on enclosed inquiry slip ▲

HIGH TEMPERATURE LAMINATES used at up to 500° F

Among new high temperature laminates announced by this firm are Grade ARF-HT asbestos mat plastic and Grade G3-HT, a glass fabric plastic. Former can be used at up to 500° F and is available in sheets and strips, as well as special tube form. Flexural strength, lengthwise, is 35,000 psi; compressive strength, flatwise, is 50,000 psi; and lengthwise tensile strength, 20,000 psi. Corresponding strength values for glass fabric reinforced Grade G3-HT, which also resists up to 500° F, are 60,000, 50,000, and 30,000 psi, respectively. Both laminates retain about 40 per cent of their original flexural and tensile strengths after 1000 hours exposure to 500° F. • **Synthane Corp.**, N. E. River Road, Oaks, Pa.

▲ For more details circle NED-861 B on enclosed inquiry slip ▲

MICROWAVE ABSORBERS flexible foams are weatherproof

Lightweight Eccosorb AN-W microwave absorber can be used outdoors or in places where it is in contact with fuel, lubricants, or hydraulic fluids. The weatherproof flexible foam can be subjected to low pressure, such as occurs at high altitude. Several absorbers are available in the range from L through K band with maximum power reflections of 1 per cent or 20 db down. • **Emerson & Cuming, Inc.**, 869 Washington St., Canton, Mass.

▲ For more details circle NED-862 B on enclosed inquiry slip ▲

AIR-POWERED EQUIPMENT

PERFORMS MORE EFFICIENTLY
+
COSTS LESS TO MAINTAIN
+
GIVES LONGER SERVICE LIFE

with a Bellows
LUBRI-AIR® CONTROL UNIT

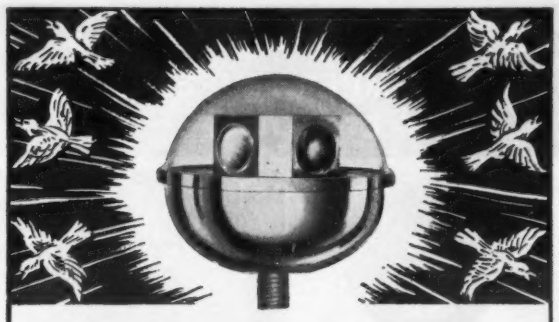
HERE'S WHY: The Bellows Lubri-Air Control Unit automatically removes dirt and moisture from the air stream . . . maintains constant pressure by compensating for fluctuations in air supply and variations in requirements of pneumatic equipment . . . provides the correct amount of misted oil to the air stream at all times. Available in ¼", ⅜", ½", ¾" and 1" sizes.

638-C Write for free Bulletin LA-15 today. Address Dept. NED-260.

OTHER INDUSTRIAL DIVISIONS OF IBEC: Sinclair-Collins Valve Co., Valvair, Akron, O. V. D. Anderson Co., Cleveland, Ohio

The Bellows Co.
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)
AKRON 9, OHIO

▲ For more details circle NED-863 B on enclosed inquiry slip ▲



It's for the BIRDS!

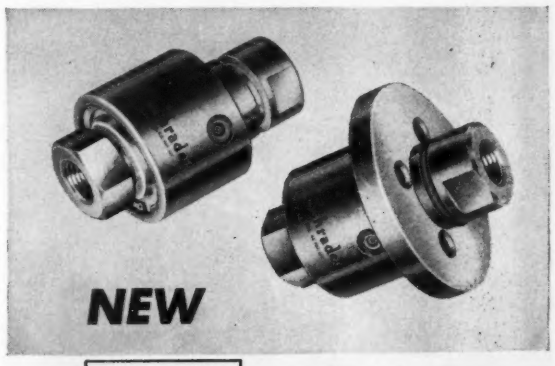
STOP COSTLY WAREHOUSE DAMAGE . . .
Flash the MARK VIII Bird Eliminator

Now, bird damage so expensive to packaged goods, sheet steel, machinery, grain and other merchandise stocked inside warehouses can be eliminated! This light covers 360° like an airplane beacon with dual colored beams at the rate of 200 a minute. The roving rays continuously disturb the birds, interrupting their feeding and nesting to the extent that they do not remain. Lifetime vitreous enameled housing can't corrode. Operates on 115-120 V, is easily installed and has a 2000-hour bulb.

Get the Facts—Write TODAY!

TRIPPE MANUFACTURING CO.
133 N. Jefferson, Dept. F-3, Chicago 6, Ill.

▲ For more details circle NED-864 B on enclosed inquiry slip ▲



Schrader® AIR-HYDRAULIC ROTATING PRESSURE JOINTS for high-speed rotation, high pressure

Now you can be sure of dependable compressed air or hydraulic installations through high-speed shafts and axles. Just specify Schrader's new Rotating Pressure Joints. Connecting a rotating member and a fixed unit, these compact, ball-bearing mounted joints assure a minimum of friction and long life. They are designed for pressures up to 400 psi and speeds up to 5000 rpm. Available with rugged steel mounting flanges to minimize vibrations encountered in high-speed operations of 2000 rpm or higher. Write for free Schrader catalog.

A. SCHRADER'S SON
Division of SCOVILL
459 Vanderbilt Avenue, Brooklyn 38, N. Y.

▲ For more details circle NED-865 B on enclosed inquiry slip ▲

FREE MARKAL PAINTSTIK!

We will send you without cost or obligation a MARKAL PAINTSTIK. They are available in various types suitable for marking on any kind of material. Hot surfaces up to 2100°F, also welding and heat treating. Cold surfaces down to —50°F, wet, dry, icy, oily, rough, smooth, acid or alkali. *MARKS Are Permanent, Fadeproof, Weatherproof.* Specify surface condition, material, temperature at time of marking.

Cold . . . down to —50°F. Hot . . . up to 2100°F.

USE THIS COUPON OR WRITE ON YOUR LETTERHEAD!

Here's what I want to mark: _____

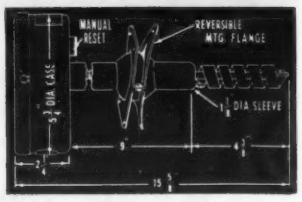
Marking Temperature _____ Max. Temp. _____ °F.
Name _____
Company _____
Address _____
City _____ Zone _____ State _____
My Distributor's Name _____

MARKAL COMPANY
3053 West Carroll Avenue • Chicago 12, Illinois

▲ For more details circle NED-866 B on enclosed inquiry slip ▲

MERCOID HIGH TEMPERATURE LIMIT CONTROL

FM APPROVED



Mercoid Type MX-51R is an adjustable indicating type high temperature limit control actuated by a coiled bimetal element to result in a normally closed mercury (tube type) switch opening in event the supervised temperature reaches the preset limit point. An externally operated manual reset knob is arranged to reset the mercury switch after high temperature operation and normal temperature restoration.

Type MX-51R: SP-ST circuit opens automatically at the preset control setting on temperature rise. Manual reset provided to restore switch to closed position after temperature falls.

OPERATING RANGE

Adjustable: 50 to 650°F.
Minimum Differential: 20°F.

WRITE FOR BULLETIN SEB-51

THE MERCOID CORPORATION
4211 Belmont Ave., Chicago 41, Ill.

▲ For more details circle NED-867 B on enclosed inquiry slip ▲

GO-GETTER CUTS COSTS IN HALF: MAKES JOBS SAFER

A leading chemical plant faced with the double explosion hazard of ethylbenzene fumes and aluminum chloride dust, solved its material handling problems — and saved money in the process—through the use of Revolvator's new fork lift trucks labeled Type Ex by Underwriters' Laboratories for Class 1 Group D explosion hazardous areas.

Previously, two men with a hand truck were required for this operation. Since the introduction of the Explosion Proof Go-Getter, one operator easily charges the hoppers in a safe manner with a minimum effort. "What used to be a dangerous, disagreeable job has now become a simple task," says the plant manager.

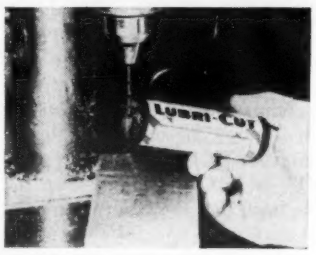
The explosion proof Go-Getter, available in 12 standard models, is but the latest development in Revolvator's better than a half century of experience in materials handling equipment covering standard walkie lift trucks, hand lift trucks, portable elevators and related equipment.

REVOLVATOR CO.
8732 TONNELE AVENUE, NORTH BERGEN, N. J.
SINCE 1904

▲ For more details circle NED-868 B on enclosed inquiry slip ▲

New Processes & Materials

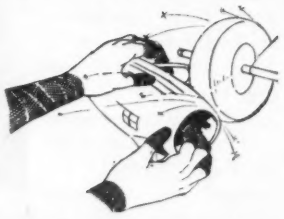
CUTTING TOOL LUBRICANT
for high or low speed machining



Supplied in semipaste tube form, Lubri-Cut is squeezed directly on the cutting tool. Bulk cans are also available, from which it is applied to work or tool with a brush. This cutting agent is an effective coolant for all types of machining operations on hard or soft ferrous or nonferrous metals, stainless, titanium, most alloys, plastics, and even glass. Properties include high thermal conductivity, fire resistance, nonoxidizing, and antiwelding. It will stick to drill flutes without spin-off or gummy deposits. • **United States Chemical Milling Co.**, 1700 Rosecrans Ave., Manhattan Beach, Calif.

▲ For more details circle NED-869 B on enclosed inquiry slip ▲

SAFETY TAPE
protects fingers in many operations



Guard-Tex safety tape adheres to itself and the operator's fingers, offering protection during assembly, soldering, wire twisting or winding, and parts handling operations. The easy-to-apply white or green tape leaves no sticky residue or color stain. It conforms to finger contours and preserves natural feel and dexterity. • **General Bandages, Inc.**, 8300 Lehigh Ave., Morton Grove, Ill.

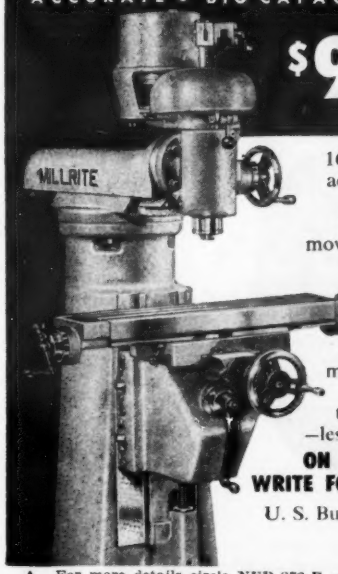
▲ For more details circle NED-870 B on enclosed inquiry slip ▲

new

U.S. MILLRITE VERTICAL MILL

ACCURATE • BIG CAPACITY • RUGGED

$990*



16" table feed, 12" ram adjustment, 15" vertical knee movement, 8" crossfeed, 12" ram movement. 4" quill travel. Hard chromed quill, hand scraped and precision ground ways, accurately finished to accepted machine tool standards. Built in Cincinnati to sell for just $990.00 —less ¾ H.P. electricals.*

ON DISPLAY NEAR YOU
WRITE FOR NEAREST DEALER

U. S. Burke Machine Tool Co.
2 Brotherton Rd.
Cincinnati 27, Ohio

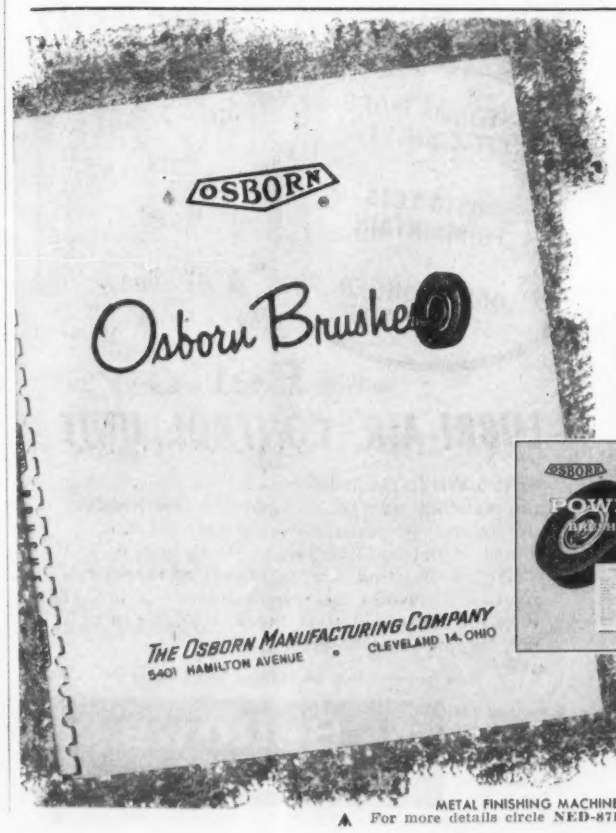
▲ For more details circle NED-872 B on enclosed inquiry slip ▲

FULL CONE—HOLLOW CONE—FLAT SPRAY

Spraco has the most complete line of nozzles available anywhere — **IN STOCK.** Capacities range from ⅛ pint/min. to 4000 gal./min. Bronze, cast iron, and stainless steel. Write for our nozzle catalog.

SPRAY ENGINEERING CO., *106 Cambridge St., Burlington, Mass.*

▲ For more details circle NED-873 B on enclosed inquiry slip ▲



Get your free 1960 copy

NEW 112-PAGE INDUSTRIAL BRUSH CATALOG

. . . filled with practical, easy-to-use application data and specifications on the complete quality line of Osborn *power . . . paint . . .* and *maintenance* brushes. A handy guide to thousands of industrial brushes and how to get the most out of them. Write to *The Osborn Manufacturing Company, Dept. N-15, Cleveland 14, Ohio.*

TYPICAL PAGES of handy specifications and how-to-use data from the new Osborn Catalog.

Osborn Brushes

POWER, PAINT AND MAINTENANCE BRUSHES

METAL FINISHING MACHINES . . . AND FINISHING METHODS • FOUNDRY PRODUCTION MACHINERY

▲ For more details circle NED-871 B on enclosed inquiry slip ▲

new... lightweight low-cost

DUST PROTECTION

Pulmosan

RESPIR-ETTE (Trade Mark)

The "ounce of prevention" against nuisance dusts and paint overspray

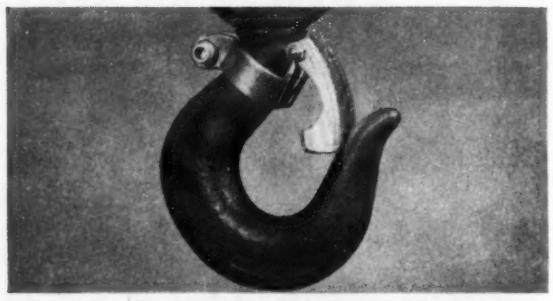
The Respir-ette mask weighs less than one ounce, provides protection at minimum cost. One-size plastic body fits all faces comfortably and does not interfere with the wearing of spectacles. It's washable and non-irritating. New throw-away filters are easily replaceable, inexpensive and efficient. Respir-ette . . . an inexpensive mask to protect against nuisance dust and paint overspray.

Write for details.

PULMOSAN STOPS Accidents

Pulmosan SAFETY EQUIPMENT CORP.
644 Pacific Street, Brooklyn 17, N. Y. Sterling 9-0200
1007 Washington Ave., St. Louis, Mo. Chestnut 1-9393

For more details circle NED-874 B on enclosed inquiry slip



Twelve stock sizes fit hook shanks ranging from 5/16 through 2½ in. Latches for larger shanks available.

New Peerless SAFETY LATCH converts standard hooks to safety hooks in minutes

Make all hooks on your hoisting equipment safety hooks . . . convert them in minutes with simple tools and a Peerless Safety Latch. Made of sturdy corrosion-resistant materials and designed for long life.

The latch installed costs less than machining a conventional safety hook, can be applied to any make of hook on any type of hoist or sling, has finger lugs to protect hoist operator.

Write us for full particulars

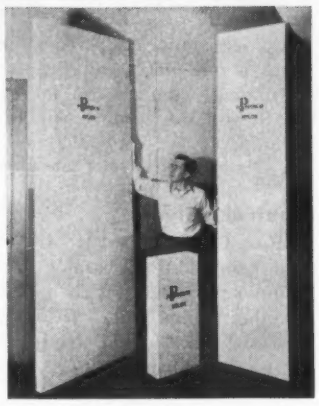
THE HARRINGTON COMPANY
Plymouth Meeting 16, Pa.

Hand Chain Hoists (¼ to 60 tons) • Electric Hoists (170 to 4000 lb.)
Trolley Hoists (¼ to 12 tons) • I-Beam Trolleys (¼ to 20 tons)

For more details circle NED-875 B on enclosed inquiry slip

New Processes & Materials

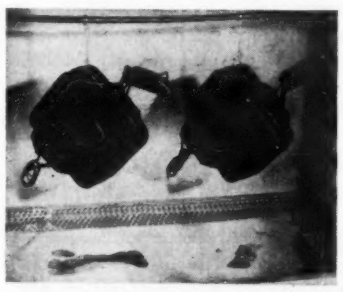
LARGE NYLON SHAPES
usable as tool fixtures, wear plates



Massive, symmetrical nylon shapes weighing up to 400 lb and measuring up to 102 in. long, 36 in. wide, and 2⅝ in. thick are now available in limited quantities for use as tooling fixtures, wear plates, and large rollers. Company research indicates larger sizes are feasible. Applications are visualized in the paper processing and textile fields where large nylon rolls provide the benefits of inherent corrosion resistance, resilience, and mechanical surface characteristics. Company currently makes nylon rods up to 8 in. diameter, flat stock up to 5 in. thick and 24 in. wide, and tubing up to 16 in. OD, as well as discs, blocks, and other shapes. • **Polymer Corp.**, 2120 Fairmont Ave., Reading, Pa.

For more details circle NED-877 B on enclosed inquiry slip

SILICONE VARNISH
cures in 6 hr at 150° C



AIEE requirements for 220° C systems are met by Dow Corning 980 silicone varnish, a Class H dipping and impregnating product. It cures in only 6 hr at 150° C with a minimum of run - off. Varnish has high heat stability, resists moisture, and is unaffected by many corrosive atmospheres. Supplied as 59 per cent solids in diacetone alcohol, it has a higher flash point than xylene or toluene impregnating solutions. After a 6-hr, 150° C cure, the 980 varnish impregnated transformer (right) has but a fraction of the run-off of the organic varnish impregnated transformer (left). • **Dow Corning Corp.**, Box 592, Midland, Mich.

For more details circle NED-878 B on enclosed inquiry slip

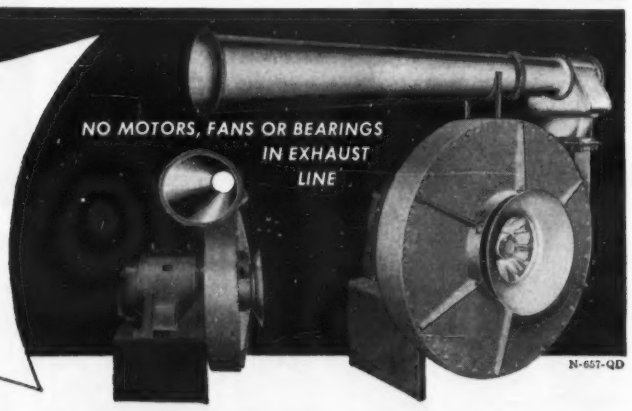
Remote Controls

Hydronic Corp.—Features, dimensions, accessories, uses, and installation information on Hydronic remote control system are found in basic engineering catalog. Closed hydraulic system is for remote motion control or duplication.

For more details circle NED-879 B on enclosed inquiry slip

Now . . .

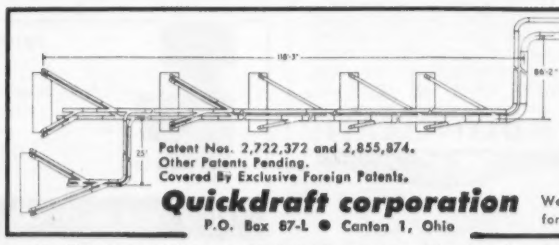
you can reduce bulk materials handling costs with *Quickdraft* high pressure exhausters



FOR MOVING:
Cement, Sand, Iron Oxide, Wheat, Corn, Salt, Limestone, Castor Beans, Knots, Blocks, Paper, Wool, Cotton, Oats, Rags, Rubber, Vegetables, Coal (Powdered), Shavings, Cork, Sawdust . . . **and any other materials that can be moved by air!**

IMPORTANT NOTICE
For resisting abrasive action, Quickdraft units can be rubber lined. For withstanding corrosive gases, all Quickdraft units are available in standard acid resisting vitreous enamel, No. 316 Stainless Steel, rigid plastics (PVC), and with plastic and Fiberglas coatings.

Time and maintenance savings usually pay for Quickdraft high-pressure exhausters in 6 to 18 months on materials handling jobs. Because material does not pass through blower, maintenance is negligible. Downtime for cleaning and replacing fans, motors and bearings is eliminated. Quickdraft units are also ideal for exhausting paint spray, abrasives, corrosive gases, noxious fumes and high temperatures. For Quickdraft engineering data on materials handling, industrial exhausting, heating plant venting, write today!



Patent Nos. 2,722,372 and 2,855,874.
Other Patents Pending.
Covered By Exclusive Foreign Patents.

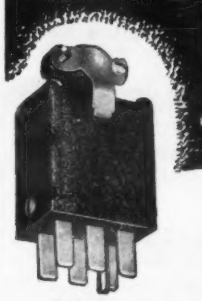
TYPICAL EXAMPLE: Ideal for moving trim from paper, cellophane and plastic slitting machines. (Models range from 4 in. to 30 in. diameter — with 1/6 to 600 H.P. motors — with negative static pressures from 1/4 in. to 60 in. W.G.)

Quickdraft corporation
P.O. Box 87-L • Canton 1, Ohio

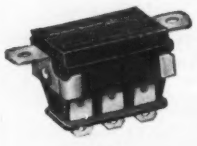
Well known for power draft units for all types of heating plants.

For more details circle NED-876 B on enclosed inquiry slip

FOR PUBLIC ADDRESS, RADIO, and kindred fields, specify JONES 400 SERIES PLUGS AND SOCKETS *of proven quality!*



S-406-AB



P-406-CCT

Double Contact Area

Phosphor bronze knife-switch socket contacts engage both sides of flat plug contacts.

Socket contacts phosphor bronze, cadmium plated. Plug contacts hard brass, cadmium plated. Insulation molded bakelite. Plugs and sockets polarized. Steel caps with baked crackle enamel. 2, 4, 6, 8, 10, 12 contacts. Cap or panel mounting.

Information on complete line, in Jones Catalog 22: Electrical Connecting Devices, Plugs, Sockets, Terminal Strips. Write.

Jones
HOWARD B. JONES DIVISION
CINCH MANUFACTURING COMPANY
CHICAGO 24, ILLINOIS
DIVISION OF UNITED-CARR FASTENER CORP.

For more details circle NED-880 B on enclosed inquiry slip

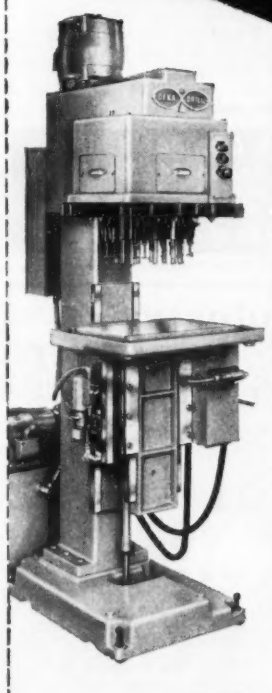
the NEW sensation of the machine tool industry!

PRECISION'S

DEKA DRILL

MULTIPLE SPINDLE DRILLING AND TAPPING MACHINE

. . . save 50% on capital outlay costs!



Top Performance

- Fully automatic drilling or tapping cycle with push button controls! Up to 14 spindles available!
- Eliminates costly set-ups — makes production runs of 250 pieces profitable!
- Drills or taps 40,000 holes per hour — floor to floor time!

Outstanding Features

RUGGED CONSTRUCTION of Deka-Drill features heavily ribbed castings — will give years of trouble-free service.

HEAVY-DUTY HYDRAULIC MECHANISM is capable of delivering over *two tons* pressure to the ram-type table!

HYDRAULIC LIFT — *a Deka-Drill exclusive*—easily positions the knee and table over a full 14 inches!

HYDRAULIC MODEL H712

Send us one of your drilling or tapping problems for a free time study estimate!

DEALERS: A FEW TERRITORIES STILL OPEN. WRITE FOR DETAILS.

MANUAL MODEL M712

DEKA DRILL
PRECISION TOOL & MFG. CO. of ILLINOIS
Dept. NED-20
1305 S. Laramie Avenue
Cicero 50, Illinois

Please send me full information on Deka-Drill.

NAME _____
FIRM _____
ADDRESS _____
CITY _____ ZONE ____ STATE _____

For more details circle NED-881 B on enclosed inquiry slip

with . . .

SILASTIC® RTV

the Dow Corning Fluid Silicone Rubber That Vulcanizes at Room Temperature

make . . .

- FLEXIBLE MOLDS that quickly reproduce exact detail, strip easily from forms, withstand hot casting materials.
- PROTOTYPE RUBBER PARTS that are inexpensive, easy to form, heat-resistant . . . require no costly molds.

ALSO . . . CALK, POT, ENCAPSULATE, with Silastic RTV . . . get high electric strength and high shock-absorbency, resistance to severe environments.

Write for details to Dept. 5402.

first in silicones **Dow Corning CORPORATION** MIDLAND, MICHIGAN

▲ For more details circle NED-882 B on enclosed inquiry slip ▲

Unsurpassed performance and endurance! Installation is easy! Just cut to shape and size you desire, from standard 18" x 18" squares; slip into position and then check the difference!

No bolts, cement or screws. FABCEL'S engineered, recessed suction cells lock machine to floor. FABCEL Pads also reduce noise and job rejects.

Write for new catalog

FABREEKA PRODUCTS COMPANY, INC.
1195 Adams Street, Boston 24, Mass.
Representatives in Principal Cities
In Canada: International Equipment Co., Ltd., Montreal, P.Q.
- made by the makers of Fabreeka -

▲ For more details circle NED-883 B on enclosed inquiry slip ▲

Industry's NEWEST Production TOOL

MOLYKOTE® G LUBRICANT

- ALMOST 100% SAFETY AGAINST GALLING AND SEIZING WITH ALL BEARING METAL COMBINATIONS
- ELIMINATES STICK-SLIP, METAL PICK-UP AND DISTORTION IN PRESS FITTING
- REDUCES WEAR-IN TIME AND DAMAGE IN NEW OR REBUILT MACHINERY
- THE HIGHER THE LOADS, THE GREATER THE MARGIN OF SUPERIORITY OF MOLYKOTE G

Write for your free sample of MOLYKOTE G LUBRICANT today. We will also send you a copy of our new Bulletin 126 which gives complete details. THE ALPHA MOLYKOTE CORPORATION, 65 Harvard Avenue, Stamford, Conn. Phone Fireside 8-3724. Plants in Stamford, Conn., Munich, Germany and Strasbourg, France.

THE ALPHA-MOLYKOTE CORP.
65 Harvard Ave., Stamford, Conn.
Please send me a free sample of your MOLYKOTE G Lubricant.
NAME _____
COMPANY _____
ADDRESS _____
CITY _____ ZONE ____ STATE _____

▲ For more details circle NED-884 B on enclosed inquiry slip ▲

New Literature & Catalogs

Pyrex Drainline System

Corning Glass Works—The new Pyrex drainline system for disposal of corrosive wastes is subject of descriptive 12-page Bulletin PE-30. This system of corrosion-resistant, tempered glass piping and fittings features a one-piece coupling designed to make a quick, permanent compression joint. Drainline can be vertically or horizontally mounted and buried in the ground.

▲ For more details circle NED-885 B on enclosed inquiry slip ▲

Control Valves

Ross Operating Valve Co.—20-page condensation of the general Ross catalog of air valves includes all standard models, with envelope dimensions, model numbers, pipe sizes, JIC symbols, and other specs. Covered are solenoid, air, hand, foot, and cam-operated units, as well as auxiliary valves in 1/4 to 1 1/4-in. pipe sizes.

▲ For more details circle NED-886 B on enclosed inquiry slip ▲

Servo Test Equipment

Theta Instrument Corp.—Synchro and resolver test equipment described in 36-page 1960 Catalog measures the electrical characteristics of control synchros, torque synchros, and computing resolvers. Theory of operation of all test set models, operating procedure, and specifications for each item of equipment are covered in detail.

▲ For more details circle NED-887 B on enclosed inquiry slip ▲

Thermoplastic Closures

Newark Die Co.—"Why Thermoplastic Closures?" is title of reprint from Oct. 1959 issue of "Modern Packaging" which explains economic considerations behind the trend to injection-moldable materials. It emphasizes the economies afforded by modern interchangeable mold design.

▲ For more details circle NED-888 B on enclosed inquiry slip ▲

Materials Handling Equipment

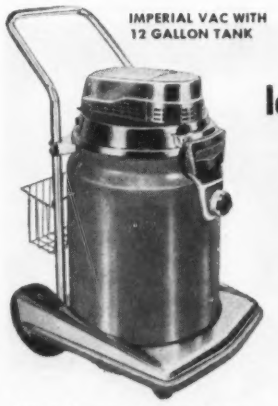
Thomas Truck & Caster Co.—Illustration and complete specifications on the entire line of standard platform trucks, two-wheel trucks, skids, casters and wheels, and trailers are provided in 24-page Catalog J-1. Additions to the line, also covered, are two new series of medium-duty industrial casters, a dairy equipment line, and chair trucks.

▲ For more details circle NED-889 B on enclosed inquiry slip ▲

Air Conditioning Valves

Superior Valve & Fittings Co.—20-page Catalog R-7 provides information on line valves, globe valves, relief valves, heat exchangers, check valves, SAE flare fittings, and related brass products for the refrigeration and air conditioning industries. Data on working pressures and codes to which products are made are provided.

▲ For more details circle NED-890 B on enclosed inquiry slip ▲



Why motors last longer in these new MULTI-CLEAN Vacuum Cleaners

(RIGHT) WITH 17 GAL. TANK
(BELOW) WITH 7 GAL. TANK

Power for new MULTI-CLEAN *Imperial* "10" and "15" Vacs comes from special heavy-duty motor units designed and built *exclusively* by MULTI-CLEAN for this purpose. They turn at 12,000 rpm with no load and 9,550 rpm with full load . . . *much slower* than needed by other vacs to move same volume of air and create same suction. This slower speed means less wear, longer life.

More Features! Extra-powerful pickup of wet or dry materials, patented quick-drying washable filter won't rot or mildew. See your MULTI-CLEAN Distributor or write:

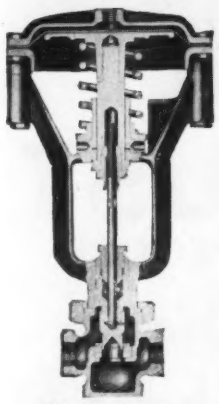
New MULTI-CLEAN *Imperial* Line consists of 3 series: the *Imperial* "5" (1/2 hp), *Imperial* "10" (1 hp) and *Imperial* "15" (1 1/2 hp). Each power unit may be used with 7, 12, or 17-gallon tank or 55 gallon drum; thus tank capacity and power can be tailored to your needs.

MULTI-CLEAN® Method

MULTI-CLEAN PRODUCTS, Inc.,
Dept. NE-73-20, 2277 Ford Parkway, St. Paul 16, Minn.

▲ For more details circle NED-891 B on enclosed inquiry slip ▲

PRECISE, LOW COST CONTROL



250 PSI, 2-WAY, V-PORT MODULATING controls temperature, pressure or flow direct or reverse acting, 1/2–2 in. NPT.

Sinclair-Collins VALVES

leak-free performance • longest service life • no wire drawing of seats • heavy duty bronze, ductile iron or cast steel bodies • for oil, air, steam, hot or cold *raw* water • 2, 3 and 4-way • single or two pressure • high or low pressure • air operated automated or remote manual control • ideal for central *raw* water hydraulic systems • 150 to 6,000 PSI • 1/4 to 3 in. NPT

8008

Write for free Bulletin SC-59, Address:
The Sinclair-Collins Valve Co., Akron 11, Ohio, Dept. NED-260.

The SINCLAIR-COLLINS VALVE Co.
AKRON, OHIO
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)
Other INDUSTRIAL DIVISIONS of IBEC: The Bellows Co., Akron, Ohio
Valvair, Akron, Ohio • V. D. Anderson Co., Cleveland, Ohio

▲ For more details circle NED-892 B on enclosed inquiry slip ▲

Wally the Witt says:

Waste is unavoidable and expensive—but you can cut the costs of waste collection and disposal with Witt cans!

Witt cans last longer! With straight sides, deep rolled corrugations, and heavy duty steel, hot-dip galvanized after fabrication, Witt cans outlast others 3 to 1. Use Witt and save!

WITT Cans

THE WITT CORNICE COMPANY
4454 Steel Place, Cincinnati 9, Ohio

▲ For more details circle NED-893 B on enclosed inquiry slip ▲

TRICO *America's Finest*

AUTOMATIC OILERS

Repay Their Cost

MANY TIMES OVER

- *Productive man-power is released for other, more profitable duties.*
- *Down-time - for "trust-to-luck," wasteful hand oiling is eliminated.*
- *Costly bearing failures are reduced to a minimum.*
- *Machine life is greatly prolonged.*

Eliminate old, wasteful and dangerous "Trust-to-luck", daily hand oiling methods . . . One filling of TRICO Oilers lasts a long time and provides perfect constant bearing protection at all times. Switch to TRICO Oilers now . . . They are quickly and easily installed. There's a type and size for most every application.

WRITE FOR FREE CATALOG

TRICO KLIPLOK CLAMPS
FOR FUSE CLIPS

"Lock like a vise."—Stay put. Save Power—Fuses—Clips. Stop unnecessary fuse blows. Especially recommended for use with "Dual-element" fuses. Pay for themselves quickly.

SEND FOR FREE BULLETIN No. 6

TRICO FUSE MFG. CO. MILWAUKEE 12, WIS.

▲ For more details circle NED-894 B on enclosed inquiry slip ▲

faster

New ARO Orbital Air Sander

- 8,500 R.P.M.
- Smoother —less vibration
- Quieter —reduces strain from noise
- Easy Grip —fits naturally to the hand
- Famous Aro Motor
- Operates on Normal Airline Pressure
- Nation-Wide Service

Try It — You'll Buy It!

Save job-time, step up finishing quality with this all-new ARO Sander! Sands right up to edges. Combines workhorse stamina with precision craftsmanship for long life, minimum upkeep. Ask your Aro Distributor for free demonstration!

THE ARO EQUIPMENT CORPORATION
Bryan, Ohio
Aro of California, 3141 S. Grand Ave., Los Angeles 7. Aro Equipment of Canada Ltd., Rexdale (Toronto), Ont. Offices in All Principal Cities

ARO AIR TOOLS
Also Air Hoists Automation Tools

▲ For more details circle NED-895 B on enclosed inquiry slip ▲

Six machines protected from dust by Torit for **$666.15**

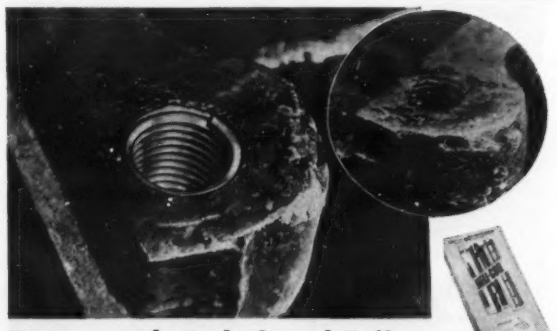
This Torit Dust Collector, Model 219FM, complete with accessories, was installed by the Mohr Lino Saw Co., Skokie, Ill., to protect 3 belt sanders and 3 other grinders (2 grinders hidden from view) from destructive dust—at a total cost of just $666.15!

After one year's operation, Mohr Lino Saw says this about their *low-cost* Torit installation: "The Torit installation has kept our shop *cleaner*, our operators *happy*, and *protected vital* machinery."

You too can achieve greater machine protection and cleaner working conditions by trapping dangerous or valuable dust *at its source* with a completely *self contained* and *portable* Torit Dust Collector. For full details write to:

TORIT MANUFACTURING CO.
Dept. 203; 1133 Rankin Street, St. Paul 16, Minnesota

▲ For more details circle NED-896 B on enclosed inquiry slip ▲



Permanently End Thread Failure That Costs You Needless

• downtime • production loss • labor costs

Worn, stripped threads? Here's all you do:

1. drill out the old threads
2. tap with *Heli-Coil** tap provided in SHOP-PACK
3. wind in a *Heli-Coil* precision formed, stainless steel Screw-Thread Insert.

Result—Back-to-original-size threads that permanently resist wear, corrosion, galling and stripping.

Heli-Coil Screw-Thread Inserts are available in all standard thread sizes in the economical SHOP-PACK Thread Repair Kit containing a large supply of inserts and all necessary installation tools. Write today for folder and name of your nearest *Heli-Coil* distributor. *Reg. U.S. Pat. Off.

HELI-COIL CORPORATION
3402 Shelter Rock Lane, Danbury, Conn.
In Canada: Armstrong Beverley Engineering Ltd., 6975 Jeanne Nanse St., Montreal 15, Que.

▲ For more details circle NED-897 B on enclosed inquiry slip ▲

New Processes & Materials

INDUSTRIAL ADHESIVE in paper film-supported rolls

A dry phenolic resin supported by a paper film, Plyophen 2000-PGL industrial adhesive is suited for manufacture of exterior and marine plywood, and bonding of veneers and plastic or metal sheets to plywood, chipboard, hardboard, and honeycomb materials. It can also be used in laminating heavy wooden beams. Sheet of adhesive is placed between the two surfaces to be joined, and bond is cured either in a hot press or by high frequency field heating. Standard roll widths are 38, 50, and 62 in. • **Reichhold Chemicals, Inc.**, 525 N. Broadway, White Plains, N. Y.

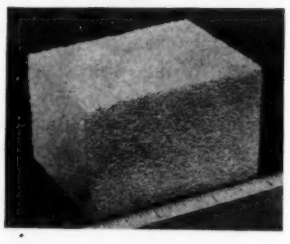
▲ For more details circle NED-898 B on enclosed inquiry slip ▲

FAST-DRYING COATINGS for wood and metal surfaces

Air drying to touch in less than 30 min, Speedy-Dry high gloss coatings provide a durable film for various production and maintenance applications on both metal and wood surfaces. Application may be by spray, brush, or dip technique. Colors include chrome, green, black, red, navy gray, silver gray, Caterpillar yellow, and safety yellow. Semigloss primer is also offered. • **Rust-Oleum Corp.**, 2799 Oakton St., Evanston, Ill.

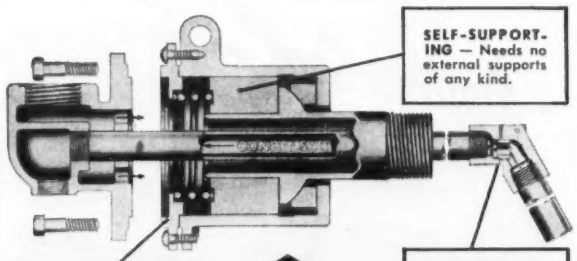
▲ For more details circle NED-899 B on enclosed inquiry slip ▲

CERAMIC INSULATING BRICK cellular type usable at 3400° F



High refractory qualities are possessed by this lightweight, high temperature, ceramic insulating material available in convenient 2½ x 4½ x 9-in. brick size. Brick is an aluminum oxide formulation which is expanded then fired. Resulting interconnecting cellular structure allows passage of gas for purging or evacuation. Material has an insulation value comparable to a 2300° F firebrick, but withstands up to 3400° F. Metallurgical uses for the easily cut or filed material include lining for hydrogen furnaces, vacuum processing, and as a catalyst support in generators. Brick weighs 1.7 lb. • **Ipsen Industries, Inc.**, 715 S. Main St., Rockford, Ill.

▲ For more details circle NED-900 B on enclosed inquiry slip ▲



Johnson Rotary Joint with SYPHON ELBOW

Johnson Joints represent the best way industry has yet found to get steam or liquids into rotating rolls and cylinders. They are completely packless, need no lubrication or adjustment. The Type SBP shown gets steam in, condensate out, through the same head. Other types available for through flow service, in sizes to meet all operating needs. *WRITE FOR COMPLETE INFORMATION.*

The Johnson Corporation
812 Wood St., Three Rivers, Mich.

▲ For more details circle NED-901 B on enclosed inquiry slip ▲

JEFFREY CHAINS

a type and size to meet every service requirement

For new installations and for replacements. Stocked for your convenience by Jeffrey distributors at handy locations.

JEFFREY

THE JEFFREY MANUFACTURING COMPANY • COLUMBUS 16, OHIO

▲ For more details circle NED-902 B on enclosed inquiry slip ▲

ELIMINATE BUGABOOS OF CORROSION AND MAGNETISM WITH KNU-VISE STAINLESS STEEL CLAMPS

Knu-Vise stainless steel toggle clamps eliminate frustrating magnetic attraction and corrosion while spot welding, or while working near acids.

The complete stainless steel line contains 18 clamps with either horizontal, vertical, or T-style handles. There are types for side mounting and pull clamps as well. Write today for complete information. A standard or a special Knu-Vise clamp will probably be the answer to your application.

Manufacturers of over 150 models of manually and air-operated clamps and pliers

KNU-VISE PRODUCTS — LAPEER MANUFACTURING CO.
3062 DAVISON ROAD
LAPEER, MICHIGAN
WESTERN DIV.: PECK and LEWIS CORPORATION 4436 Long Beach Ave., Los Angeles 58, Calif., ADams 3-7146
CANADIAN DIV.: HIGGINSON EQUIP. SALES LTD. 1131 Pettit Road, Burlington, Ontario

▲ For more details circle NED-903 B on enclosed inquiry slip ▲

Measure **TENSILE WEIGHT • TORQUE COMPRESSION** *- anywhere!*

with a portable

Dillon Dynamometer

- 13 CAPACITIES: 0-500, 0-1000, 0-2500, 0-3500, 0-5000, 0-10M, 0-15M, 0-20M, 0-30M, 0-40M, 0-50M and 0-100M pounds.
- Choice of dial sizes: 5" or 10" diameter.
- Equipped with attachment shackles and pins.
- Dial protected by shatter-proof crystal.
- Will withstand accidental overloads.
- Has max. pointer to register peak loads.
- Extremely compact. Requires little headroom.
- Lightweight yet rugged. Easy to handle.

YOURS FREE! Profusely illustrated catalog showing applications and prices. Write today!

W. C. Dillon & COMPANY, INC.
14578NE Keswick St.
Van Nuys 1, Calif.
D-27

▲ For more details circle NED-904 B on enclosed inquiry slip ▲

CRANE RAIL
& ALL CRANE-RUNWAY MATERIAL

Send for Catalog NE-2

Get your complete crane runway needs . . . "faster" . . . from Foster warehouse stocks. We carry all crane rail sections drilled for hook belts when required (12* to 175*), plus splice bars, crane stops, bolts, clips, bearing plates, hook and anchor bolts. Experienced crane-runway personnel can help in your ordering.

L.B. FOSTER CO.
PITTSBURGH 30 • ATLANTA 8 • NEW YORK 7
CHICAGO 4 • HOUSTON 2 • LOS ANGELES 5

▲ For more details circle NED-905 B on enclosed inquiry slip ▲

UNISORB
MODERN 3-IN-1 MACHINE MOUNT
• VIBRATION CONTROL
• LOW COST INSTALLATION
• PRECISION LEVELING

A complete line of Unisorb Pads and Unisorb Level-Rite Mounts for fast and simplified installation of all types of machinery and equipment.

● Cuts installation costs up to 70% . . . eliminates bolts and lag screws . . . speeds installation . . . no drilling required . . . machines can always be moved quickly.
● Eliminates up to 85% of transmitted vibration and noise . . . increases machine life and efficiency . . . reduces maintenance.
● Unisorb Level-Rite provides fast and precise leveling.
● Safe, sure grip . . . can be cemented if needed.
● Unisorb is available in wide variety of densities and thicknesses — for maximum efficiency. Send for bulletin, today.

FZ9-64

UNISORB 224 SOUTH STREET BOSTON, MASS.

▲ For more details circle NED-906 B on enclosed inquiry slip ▲

NEW TRUCK CATALOG
free for you now!

A COMPLETE ONE-SOURCE GUIDE TO THE INDUSTRY'S ONE-SOURCE LINE OF FLOOR TRUCKS . . . HAMILTON!

Here in one big catalog are illustrations, complete data and specifications of Hamilton Floor Trucks in hundreds of styles, sizes and capacities for every ordinary (and extra-ordinary) materials handling job—the well-known Hamilton line, clearly shown in this colorful, easy-to-use catalog, cross-indexed for quick, ready reference.

Hamilton
Headquarters for FLOOR TRUCKS · Casters and Wheels

Send for your copy today!
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COMPANY .....
ADDRESS .....
CITY ..... ZONE ..... STATE .....
THE HAMILTON CASTER & MFG. CO., 1761 Dixie Highway, Hamilton, Ohio

▲ For more details circle NED-907 B on enclosed inquiry slip ▲

New Literature & Catalogs

Electrical Protective Devices

McGraw-Edison Co., Bussmann Mfg. Div.—Suggestions for selecting the proper protective devices for electric circuits, motor appliances, and apparatus are contained in illustrated handbook. Simplified diagrams show various circuits. Space-saving features of dual-element fuses are explained.

▲ For more details circle NED-908 B on enclosed inquiry slip ▲

Metal Band Saws

Peerless Machine Co.—Automatic blade tension, blade guide, counterbalanced saw arm, variable speed drive, and uniform feed pressure control are features of Peerless high speed metal band saws. Specifications of manual and automatic cycling models are included in 12-page Bulletin 6601.

▲ For more details circle NED-909 B on enclosed inquiry slip ▲

Drilling & Tapping Units

Hypneumat, Inc.—Air or hydraulic power automatic drilling and tapping units and their many uses are covered in 24 pages of illustrated Bulletin 5810. Technical data on operation and selection are included. Units have stroke lengths from 2 to 25 in. and drill up to ¾-in. holes in steel.

▲ For more details circle NED-910 B on enclosed inquiry slip ▲

Machine Shop Accessories

Brown & Sharpe Mfg. Co.—Arbors, adapters, and collets are among the many machine shop accessories detailed in illustrated 48-page Catalog 37A. Important features and characteristics of each are given, along with specifications and prices.

▲ For more details circle NED-911 B on enclosed inquiry slip ▲

Relays

Electronic Specialty Co., Relay Div.—Data sheets contained in relay Folder R-200 cover three basic types of relays—the 5 and 10-amp series, and specialty relays. Latter includes the crystal can relay which is capable of handling 10-amp loads for 100,000 operations with a 40-amp overload rating.

▲ For more details circle NED-912 B on enclosed inquiry slip ▲

Tight Tubing Bends

Aeroquip Corp.—Engineering information on the fabrication of Tight Bend tubes, formed through a cold process method to extremely short radius bends of 1:1 ratio or less, is found in Bulletin 25. Bends are fabricated from aluminum, steel, stainless steel, and other alloys in ½ to 3-in. OD tube.

▲ For more details circle NED-913 B on enclosed inquiry slip ▲

Guide to Maintenance Painting

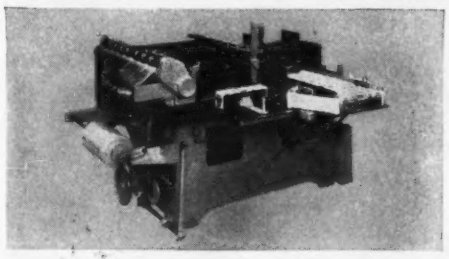
Barreled Sunlight Paint Co.—"How To Reduce Painting Costs" is title of a 12-page guide to economical maintenance painting. It discusses the three basic areas of painting economy: Savings on labor; savings on material; and savings over the years. A formula compares paint costs.

▲ For more details circle NED-914 B on enclosed inquiry slip ▲

IN Synthe-Seal® BEARINGS
MARLIN-ROCKWELL RELIABILITY MRC COUNTS

BACKED BY 62 YEARS EXPERIENCE IN THE MANUFACTURE OF BALL BEARINGS
Send for FORM 1528 listing sizes
MRC BALL AND ROLLER bearings
Marlin-Rockwell Corporation
Jamestown, N. Y.

▲ For more details circle NED-915 B on enclosed inquiry slip ▲



REDUCE COSTS . . . PROTECT PRODUCTS . . . IMPROVE DISPLAYS . . . PROMOTE MULTIPLE SALES with Battle Creek's new Model 850 Automatic Bundler. This machine bundles groups of packages . . . 4, 6, 8, 12 and 24 to a bundle . . . at speeds up to 18 per minute. One operator can easily keep pace with a packaging line as high as 180 per minute. Depending on construction selected, the machine bundles with kraft paper, polyethylene, cellophane and other films; in bundles within 5" to 12" long, 4" to 10" wide and 1" to 8" high. Used for textiles, paper items, drugs, chemicals, cosmetics, food products . . . and or what have you? Battle Creek *"Continuous Flow"* Packaging Machines, Inc., Battle Creek, Michigan.

▲ For more details circle NED-916 B on enclosed inquiry slip ▲

Put your finger on it FAST . . . with the Wassell TWIN CONTROLS

Produc-Trol® will give you delivery dates, parts supply, project status.
Vu-Board will tell you if the machines are loaded to meet those dates.
There's no digging in files or calling for reports . . . The facts are right in front of you to foresee problems in time to solve them.
For more information, write:

WASSELL ORGANIZATION, INC.
DEPARTMENT N-2 • WESTPORT, CONNECTICUT • EST. 1935

▲ For more details circle NED-917 B on enclosed inquiry slip ▲

SOLD BY LEADING INDUSTRIAL DISTRIBUTORS
COLUMBIAN VISES
GUARANTEED UNBREAKABLE

THE COLUMBIAN VISE & MFG. CO. • CLEVELAND 4, OHIO

▲ For more details circle NED-918 B on enclosed inquiry slip ▲

CUT GOGGLE CLEANING COSTS with K-LENS-M
REG. U.S. & CAN. PAT. OFF.
BETTER VISION PRODUCTS

Personal and Protective Eye Wear Stay Clean Longer with K-Lens-M at Lower Cost per Cleaning.
The Modern Liquid Method Cleans and Anti-Fogs Glass or Plastic
FREE Sample—Request 30-Day Trial Offer
The WILKINS Co., Inc.
Cortland 32, N. Y.
Wise to Choose — Safe to Use
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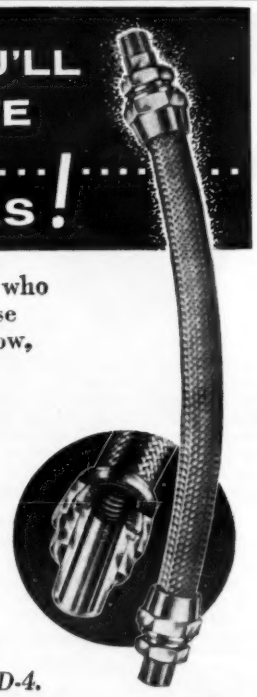
▲ For more details circle NED-919 B on enclosed inquiry slip ▲

YOU'LL HAVE IT..... !.... IN MINUTES!



Welcome words to a man who wants a flexible metal hose connector and wants it now, . . . not in days or weeks.
Packless has available seamless flexible metal hose, in sizes 1/4" thru 1 1/2" I.D., with fittings you can install *in your own plant.*
Find out more about this new "do-it-yourself" method.
Send for copies of Bulletins 140, 150 & IND-4.
PACKLESS METAL HOSE INC.
730-39 South Columbus Ave., Mt. Vernon, N. Y.
▲ For more details circle NED-920 B on enclosed inquiry slip ▲

EXHAUST SYSTEMS?
Then You need a
WING FRESH AIR SUPPLY HEATER

Exhaust systems operate better when make-up air is provided to replace the air exhausted during process operations, paint spraying, etc. Fresh, heated air helps workers feel and work better. Incoming drafts around doors and windows are eliminated. Boilers operate more efficiently. Ideal for summer ventilation.

Wing FAS Heaters are available for steam, hot water or gas for roof or wall mounting.

WING L. J. WING MFG. CO. DIVISION OF AERO SUPPLY MFG. CO. INC.
140 Vreeland Mills Road, Linden, New Jersey
Factories: Linden, N. J. and Montreal, Canada
▲ For more details circle NED-921 B on enclosed inquiry slip ▲

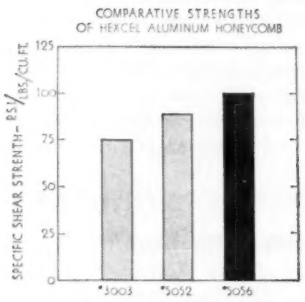
New Processes & Materials

PREDRIED PAINT
applied in self-adhesive sheets

A professional looking, streakless paint job is achieved without mess, odor, brush, or bucket with application of predried self-adhesive sheets of pure paint. The paint sheet is furnished sealed between two layers of paper and is cut to fit surface area before stripping off the adhesive side. Surface paper is removed after sheet is positioned and put down firmly. "Painted" surface is then ready for use. Fluorescent colors, which resist fading for upwards of two years, are effective for road and vehicle marking, safety signs, warehouse and plant marking, pipeline marking, as well as for graphic art uses on posters and signs. It can be die-cut for signs, emblems, and labels. Samples are available. • **Morgan Adhesives Co.**, Stow, Ohio.

▲ For more details circle **NED-922 B** on enclosed inquiry slip ▲

ALUMINUM HONEYCOMB
core material has high strength



*3003 – Original aluminum honeycomb.
*5052 – Improved aluminum honeycomb (1954)
*5056 – Further improved aluminum honeycomb (1960)

Comparative shear strength of 5056 aluminum honeycomb and two other aluminum honeycomb materials is graphically shown. The improved core material has a 15 to 30 per cent higher strength and is produced in cell diameters ranging from 1/8 to 3/8 in. and in foil gages of 0.001 and 0.002 in. Pieces will be offered in sizes up to 28 x 96 in. Expected uses are aircraft, missiles, packaging, construction, furniture, and lighting. Sample is available upon request. • **Hexcel Products, Inc.**, 2332 Fourth St., Berkeley, Calif.

▲ For more details circle **NED-923 B** on enclosed inquiry slip ▲

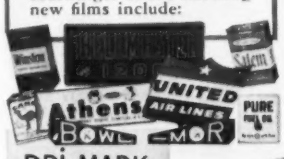
Impact Molding Compounds

Union Carbide Plastics Co.—"The Test of Impact" is title of 16-page Vol. 5, No. 1 issue of Bakelite Molding News which furnishes data on four impact polystyrene molding compounds. These are offered in high impact, medium impact, and high and medium impact, heat resistant grades. Typical applications are shown.

▲ For more details circle **NED-924 B** on enclosed inquiry slip ▲

ANNOUNCING... THE LATEST ADDITION TO OUR FAMILY OF QUALITY PRODUCTS—
MEYERCORD DRI-MARK FILMS

DRI-MARK . . . is Meyercord's newly perfected line of PRESSURE SENSITIVE signs and trade marks produced as durable Truck Signs, Window Signs, Nameplates and Product Markings. These startling new films include:



These high tensile strength PRESSURE SENSITIVE films and laminates give the greatest possible latitude and flexibility to the Meyercord line of products, adaptable to all of your sign needs . . . processed with Meyercord's own exclusive PRESSURE SENSITIVE adhesive and Meyercord's in-plant Research, Art, Production and Service facilities. *Remember, when it's DRI-MARK it's Meyercord!*

DRI-MARK DECAL
DRI-MARK VINYL
DRI-MARK MIRRO-CAL
DRI-MARK MIRRO-CAL
DRI-MARK CLEAR MYLAR*
DRI-MARK OUTDOOR PAPER

with MEYERCORD COLORGARD 70
Now . . . all Meyercord DRI-MARK films are protected by COLORGARD 70...Meyercord's exclusive laboratory-developed and perfected clear top coat—the toughest, most durable coat yet produced for the Decal and transferable film industry. Thoroughly tested! Two years in actual use!

Whatever your sign needs, you owe it to yourself to investigate Meyercord's complete line of products. Our factory trained representatives will be glad to assist you in the proper selection of markings for any particular requirement. *Write today.*

the MEYERCORD co.
Dept. B-316, 5323 West Lake Street, Chicago 44, Illinois
▲ For more details circle NED-925 B on enclosed inquiry slip ▲

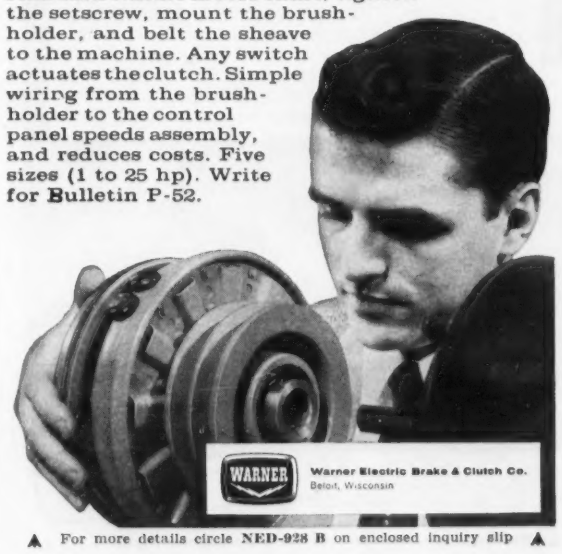
LepeL
HIGH FREQUENCY Induction HEATING
HARDENING
SOLDERING
ANNEALING
MELTING
BRAZING

LEPEL Electronic Tube GENERATORS—1 KW; 2 1/2 KW, 5 KW; 10 KW; 20 KW; 30 KW; 50 KW; 75 KW; 100 KW.
LEPEL Spark Gap Converters 2 KW; 4 KW; 7 1/2 KW; 15 KW; 30 KW.
WRITE FOR THE NEW LEPEL CATALOG . . . 36 illustrated pages packed with valuable information.
All Lepel equipment is certified to comply with the requirements of the Federal Communications Commission.
LEPEL HIGH FREQUENCY LABORATORIES, INC.
55th STREET and 37th AVENUE, WOODSIDE 77, NEW YORK CITY, N. Y.
▲ For more details circle NED-926 B on enclosed inquiry slip ▲

New Johnson Continucast* 105 Inch Bronze Bars

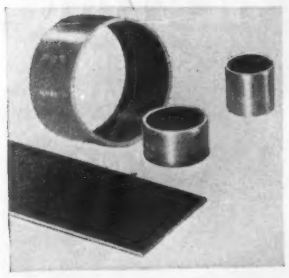
ECONOMICAL • CONVENIENT • HIGH QUALITY
Now famous Johnson quality solid and tubular bronze bars are being produced by a continuous casting method to give you the economy and convenience of 105" lengths.
Continucast bars are economical because your distributor can cut this long bar in multiples of a variety of lengths to suit your requirements. You buy and handle less metal—pay for only the metal you use.
The continuous casting method improves the physical qualities of the Johnson alloy 72 (SAE 660) because the distribution of lead and other elements is more uniform. This improves machinability, gives you greater tensile, yield, impact and fatigue properties.
Johnson **Continucast** 105" Bronze Bars are available in 21 sizes of solid bars from 1/2" to 3" diameter and in 118 sizes of tubular bars which range from 1/2" to 2 1/2" ID and from 1" to 3" OD.
For full information ask your distributor or write for folder JBL-14.
JOHNSON Bearings
*Trademark
Johnson Bronze
580 South Mill Street • New Castle, Pa.
Subsidiary: Apex Bronze Co., Oakland, Cal.
▲ For more details circle NED-927 B on enclosed inquiry slip ▲

Special Machinery Builders: Why spend engineering time and money detailing clutches, bearings, drive sheaves, and controls when you can buy them in a package? Especially when that package gives you faster cycling, more automatic control, easier pushbutton jogging, and greater versatility! Yes, all the benefits of electric motion control—now practical in every way for one-of-a-kind applications. It's a pre-engineered, completely assembled clutch-pulley combination—Warner's new Electro-Sheave. Just slip it over any standard NEMA motor shaft, tighten the setscrew, mount the brush-holder, and belt the sheave to the machine. Any switch actuates the clutch. Simple wiring from the brush-holder to the control panel speeds assembly, and reduces costs. Five sizes (1 to 25 hp). Write for Bulletin P-52.



WARNER Warner Electric Brake & Clutch Co. Beloit, Wisconsin
▲ For more details circle NED-928 B on enclosed inquiry slip ▲

NEW GLACIER DU* DRY BEARINGS



DU metal is an ideal bearing material for a wide range of applications. It withstands much higher velocities, runs much cooler than other unlubricated bearings at comparable low speeds . . . has a compressive strength of 51,000 p.s.i. DU metal is applied without the need for temperature-limiting adhesives . . . will withstand from −328° F to +536° F.

Apply DU material to appliances, automobiles, aircraft, farm and industrial machinery, office equipment. Standard bushings and thrust washers stocked for ⅜" to 2" shafts; strip available for special fabrication.

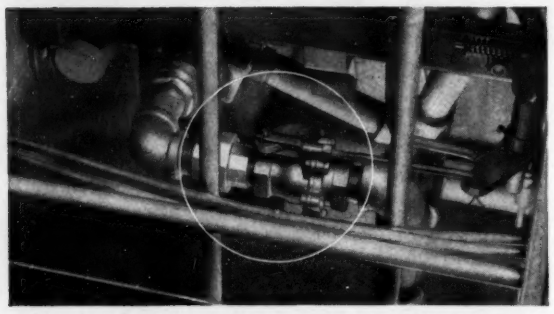
GARLOCK

Find out more from your bearing manufacturer, or write for engineering catalog DU-458 directly to **Special Products Dept.,** United States Gasket Company, Plastics Division of The Garlock Packing Company, Camden 1, New Jersey.

*Trademark, Glacier Metal Co. Ltd.

▲ For more details circle **NED-931 B** on enclosed inquiry slip ▲

Trouble Saver in a Big Washer



The big *Straightaway* Can washers built by the R. G. Wright Co., Inc., Buffalo, N. Y., are equipped with Rockwood Ball Valves, for washing with a detergent solution and rinsing — at temperatures of 135°F. to 180°F. Rockwood advantages for this and the widest range of other processing operations include: *full round flow . . . leakproof seal . . . opening and closing with ¼" turn . . . extra long wear-resistance.*

Equipment manufacturers and processing plants depend on Rockwood Ball Valves — of bronze or steel — for simplifying operation and maintenance. Available in all pipe sizes. Tested and listed by Underwriters' Laboratories, Inc.

ROCKWOOD SPRINKLER COMPANY
A Division of The Gamewell Company
888 Harlow Street, Worcester 5, Mass.

▲ For more details circle **NED-932 B** on enclosed inquiry slip ▲

Cuts Practically Any Material
Porter-Cable BAYONET SAW

EXTRA HEAVY DUTY FOR INDUSTRIAL USE
Zips through hard and soft woods, ferrous and nonferrous metals, plastics, etc. Makes intricate, straight or angle cuts . . . even plunge cuts with no starting hole! The easy-to-use, versatile tool for every industrial and maintenance shop. Designed and built for all-day performance. Thousands in use throughout industry. Ask your industrial distributor or write for folder 207.

MODEL 548
$99.50

Porter-Cable
Quality Power Tools

PORTER-CABLE MACHINE COMPANY
6082 Marcellus Street
Syracuse, N. Y.

▲ For more details circle **NED-933 B** on enclosed inquiry slip ▲

New Literature & Catalogs

Steel Blast Cleaning Shot

Pangborn Corp.—Factors pertinent to selection of steel blast cleaning abrasives are outlined in 20-page Booklet 2294. It covers latest metallurgical developments in producing steel shot, compares one brand with another, and explains quality control. Test results are listed.

▲ For more details circle **NED-934 B** on enclosed inquiry slip ▲

Pallet Racks

Tier-Rack Corp.—Conventional wood warehouse pallets are converted to portable racks by Porta-Frame free-standing rack sections. Two tubular steel frames snap together, independently of pallet, to form racks capable of supporting tons of weight. Racks are subject of 8-page bulletin.

▲ For more details circle **NED-935 B** on enclosed inquiry slip ▲

High Vacuum Pumps

Consolidated Vacuum Corp.—Roots high vacuum pump Brochure 8-20 discusses development, operation, and features of Heraeus Roots pumps which are applicable to numerous vacuum processes. These include metallurgy, tube evacuation, environmental chambers, vapor deposition, and other uses in which high speed, short pumping cycles, and oil-free operation are prime concerns. Speed curves are graphed.

▲ For more details circle **NED-936 B** on enclosed inquiry slip ▲

Solenoid Brakes

Trombetta Solenoid Corp.—Five new lines of solenoid operated brakes covering wheel sizes from 2½ to 14 in. are subject of 16-page Bulletin EE-220. Dimensional and engineering data are tabulated for Theta ac and dc, air, and hydraulic spring-set units; ac spring-release brakes; and explosionproof ac and dc spring-set brakes.

▲ For more details circle **NED-937 B** on enclosed inquiry slip ▲

Rust & Corrosion Controlling Coatings

Rust-Oleum Corp.—"New Color Horizons," a 38-page catalog, outlines a system which stops rust and offers an attractive finish in the form of primers and colored top coatings. Included are chips of all colors available in the various finishes. Protective coatings that are water, heat, and chemical resistant; floor coatings; galvanized metal coatings; wire fence coatings; and others are also detailed.

▲ For more details circle **NED-938 B** on enclosed inquiry slip ▲

Cylinder Valves

Hunt Valve Co.—Trim Line subminiature valves specified in 12-page Bulletin 592 are suited for controlling small cylinders, or operating diaphragms and pilot cylinders where mounting space is limited. They are 1 in. thick by 1½ in. wide and are available in six valve actions. Units can be used with air, oil, or acidic water at pressures to 125 psi and temperatures to 150° F.

▲ For more details circle **NED-939 B** on enclosed inquiry slip ▲

This uncommon carrier . . .
is rapidly becoming the common answer to materials handling problems

HERE'S HOW DOUGLAS AIRCRAFT USES CONVOY #T-31 TOTE BOXES TO SPEED COMPONENTS TO ASSEMBLY

We make many standard size tote boxes . . . nesting, stacking and vertical sided . . . but we'll custom-make any box your product or use calls for.

Special sizes and shapes are economically produced by our "Chem-Board" process of rigidizing hi-test corrugated board to remarkable strength.

More and more famous name industries are using Convoy Tote Boxes. Try us.

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CANTON 6, OHIO
P. O. Station B, Box 216 N
GReenwood 7-4569

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. . . praised by the experts as BEST BUYS IN ELECTRONICS

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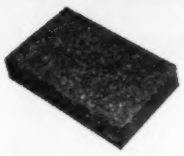
Machinery and Equipment Mounting

Armstrong's **VIBRACORK** Floats Vibration Away on Millions of Air Cells



Resilient, pure cork granules of uniform size and density are especially selected for compression into vibration controlling Vibracork sheets. Unlike conventional thermal insulation cork, Vibracork is especially designed to reduce vibration, shock and noise transmission from printing presses, pumps, compressors, pulverizers, and many other types of heavy machinery and equipment. It is used with excellent results around the foundation footings of buildings to stop transmission into the structure. Vibracork does its job well, and at low cost.

For further information including installation data, write to Korfund—exclusive United States distributor. Ask for Bulletin 37.

- **Vibracork has a wide loading range** (Two densities and three thicknesses covering a range up to 8500# per square ft.)
- **Vibracork is easy to use** (Cut it to size on the job with an ordinary hand saw)
- **Vibracork is convenient to stock** (Standard sheets—12" x 36")

THE KORFUND COMPANY, INC.
48-35 Thirty Second Place, Long Island City 1, N. Y.

▲ For more details circle **NED-942 B** on enclosed inquiry slip ▲

Cut ANY Shape in Metal . . . with a BEVERLY THROATLESS SHEAR!

- Capacities to 3/16" in mild steel
- Make clean, knurl-free cuts in any metal to capacity
- High Carbon High-Chrome Blades
- Built to last a lifetime

Here's What a Beverly Can Do!
Cuts made in 18 ga. metal with Model B-1

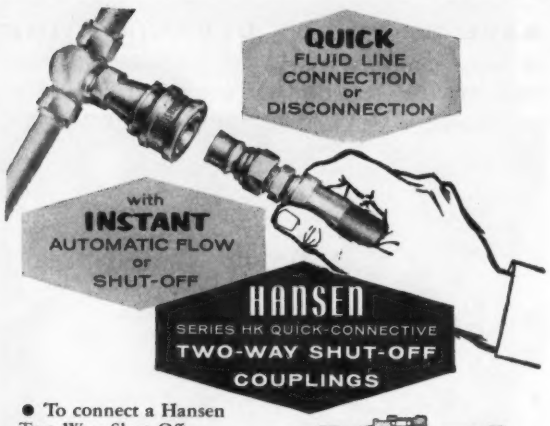
Model B-3 with Ball Bearing Hold Down

Beverly Shears are the most versatile metal shearing tools you can use. Unique shoulder design permits any cut . . . rack and pinion gives great power with little effort. Alloy steel body for maximum rigidity and strength. Made in 4 models.

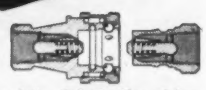
Write for illustrated circular —or see your Beverly Distributor.

Beverly SHEAR MFG. CO.
3016 W. 111th Street Chicago 43, Ill.

▲ For more details circle **NED-943 B** on enclosed inquiry slip. ▲



● To connect a Hansen Two-Way Shut-Off Coupling, you merely pull back the sleeve on the Socket and push in the Plug. To disconnect, just pull back the sleeve. Available in brass or steel with female pipe thread connections from 1/8" to 1" inclusive.



Instantly shuts off both sides of line... prevents loss of liquid, gas or pressure.

Write for the Hansen Catalog . . . a ready reference when you want information on couplings in a hurry.

Representatives in Principal Cities

THE HANSEN MANUFACTURING COMPANY
4031 WEST 150th STREET • CLEVELAND 35, OHIO

▲ For more details circle **NED-944 B** on enclosed inquiry slip ▲

GTS

AUTOMATIC NAMEPLATE MARKER *with* AUTOMATIC FEED

This GTS unit marks nameplates at the rate of 3000-3600 per hour with perfect uniformity. Operator merely loads the automatic feed and unloads the discharge stacker. Machine can be equipped for consecutive serial numbering. Inquire at GTS for the finest in marking equipment.

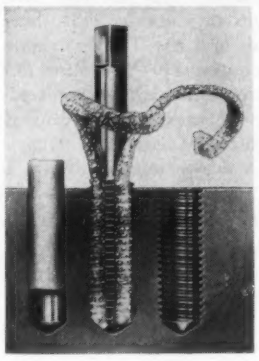
IF IT'S WORTH MAKING, IT'S WORTH MARKING.

GEO. T. SCHMIDT, INC.
1800 W. Belle Plaine Avenue
Chicago 13, Illinois

▲ For more details circle **NED-945 B** on enclosed inquiry slip ▲

New Processes & Materials

WAX TAPPING CARTRIDGE removes chips in blind hole tapping



Chips made in blind hole tapping operations are removed by use of a wax pellet Tap Cartridge, dropped into the drilled, or drilled and reamed hole. The tap causes a solid flow of wax which carries the chips out the flutes. Sizes from 0 to 80 and through 1¼ in. are available for use in steel, iron, aluminum, plastics, and the exotic metals. Free samples are offered by sending data on tap size, threads per inch, hole depth, and material to be tapped. ● **Tap Cartridge Co.**, Dept. AC, Box 1017, Cincinnati 1, Ohio.

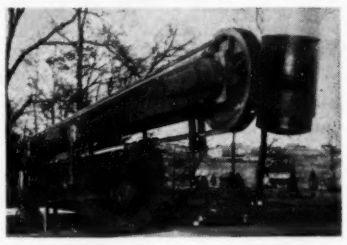
▲ For more details circle **NED-947 B** on enclosed inquiry slip ▲

DUAL-PURPOSE ALLOY can be wrought as well as cast

Widely applicable in industrial processing requiring resistance to concentrations of sulphuric, nitric, and phosphoric acids at high temperatures, Illium R alloy can be wrought as well as cast. It is available as billets, sheet, strip, hot rolled bar, or forgings. Tests show that alloy has corrosion rate of 0.005 in. per year in a 30 per cent concentration of boiling sulphuric acid. Similar low rates are noted in other acid concentrations. ● **Stainless Foundry & Engineering, Inc.**, 5132 N. 35th St., Milwaukee 9, Wis.

▲ For more details circle **NED-948 B** on enclosed inquiry slip ▲

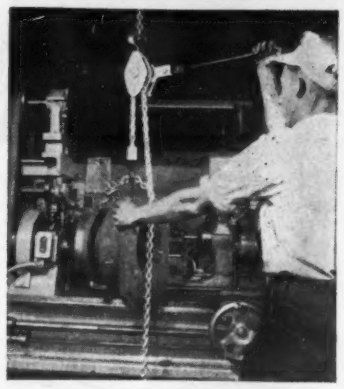
STRUCTURAL STEEL TUBING in girths from 12 to 48 in.

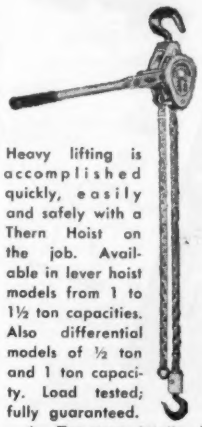


Fabricated square and rectangular large structural steel tubing for use in boom sections (illustrated), trailers, conveyors, crash railings, and area lighting consists of two channel sections fused together by submerged arc welding. Girths range from 12 to 48 in. with wall thicknesses of 1/8 to 1/2 in. Tubing is fabricated from either ASTM A-113 Grade B or A-7 structural steel plates to straightness tolerance of 1/32 in. in 3 ft; wall thickness tolerance to ±10 per cent; diameters to ±0.075 in. maximum; flatness to ±0.015 per inch; and length tolerance to ±1/16 in. in 12 ft. ● **Union Asbestos & Rubber Co.**, Espro Tubing Div., 332 S. Michigan Ave., Chicago, Ill.

▲ For more details circle **NED-949 B** on enclosed inquiry slip ▲

Stay in CONTROL of the LOAD with Thern HOISTS





Heavy lifting is accomplished quickly, easily and safely with a Thern Hoist on the job. Available in lever hoist models from 1 to 1½ ton capacities. Also differential models of ½ ton and 1 ton capacity. Load tested; fully guaranteed.

Thern

WINCHES Spur gear and worm gear manual or power winches for loads up to 5000 lbs. compact, trouble-free design. Many applications.

Write today for FREE Catalog and prices on full line of hoists, winches, cranes, lift trucks.

THERN MACHINE COMPANY
3800 W. 4th St. • Winona, Minn.

▲ For more details circle **NED-950 B** on enclosed inquiry slip ▲

New Way to Stop Faucet Leaks!

★ 9-in-10 washers are fastened with TOO LONG or SHORT SCREWS thus loosen and destroy themselves. Leaks quickly follow!

34 YEARS OF RESEARCH REVEALS NEW SOLUTION

★ New, patented 'Sexauer' SELF-LOCK screws have imbedded expanding NYLON PLUG. They lock at required depth AUTOMATICALLY, hold washers firmly! Made of MONEL, they are rustproof, non-corroding. Heads can't twist off. Screw slots can't distort.

★ NEW, improved 'SEXAUER' EASY-TITE faucet washers are made of super-tough, pliable du Pont compound (not rubber or fibre). Reinforced with a vulcanized layer of Fiberglas, they resist distortion and splitting from shut-off grind and squeeze.

★ Faucet leaks repaired with 'Sexauer' EASY-TITE faucet washers and SELF-LOCK screws outlast ordinary repairs "6-to-1"!

HIDDEN COSTS OF FAUCET LEAKS!

Hackensack, N. J. Water Co. and American Gas Association figures prove stopping just ONE PIN-HOLE SIZE (1/32") LEAK saves you 8,000 gal. water quarterly. A HOT WATER FAUCET LEAK repair saves you over $7.58 QUARTERLY in fuel and water bills. Fewer leaks also produce important savings on MATERIALS, LABOR and COSTLY FIXTURE REPLACEMENTS!

A 'Sexauer' Technician will make available our NEW Catalog, Edition "J", listing our entire line of over 3,000 TRIPLE-WEAR plumbing repair parts and tools. He will survey your fixtures, determine the repair parts needed and establish an efficient stock arrangement and control to prevent costly overstocking or shortages. You get this service without obligation. *Act now!*

J. A. Sexauer Mfg. Co., Inc., Dept. AU-20
2503-05 Third Ave., New York 51, N.Y.
Please send me a copy of your NEW Catalog "J"
Name _____ Title _____
Organization _____
Bus. Address _____
City _____ Zone _____ State _____

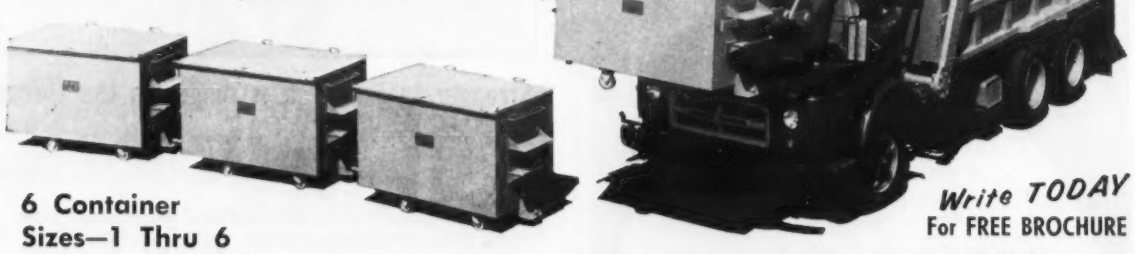
SEXAUER
WORLD'S LEADING SPECIALISTS IN PLUMBING AND HEATING REPAIR PARTS

▲ For more details circle **NED-951 B** on enclosed inquiry slip ▲

Containerized Waste Cuts Costs . . . Ends "Trash Piles" & Fire Hazards

Mfd. By DEMPSTER BROTHERS Inc. Patents Pending

PUT THE LOW-INVESTMENT DEMPSTER-DUMPMASTER SYSTEM TO WORK FOR YOU



6 Container Sizes—1 Thru 6 Cu. Yd. Available

Rental Service Available In Most Major Cities...

DEMPSTER DUMPSTER® SYSTEMS

Write TODAY For FREE BROCHURE

Containerize plant waste and refuse when it accumulates — indoors or outdoors . . . small or large volume — there are many enclosed DEMPSTER-DUMPMASTER Containers to fit your storage needs. The safe, economical Dumpmaster automatically picks-up and empties each container as it is filled . . . cuts collection costs to new record lows. Write for free brochure or the name of your nearest DEMPSTER-DUMPMASTER Equipped Private Hauler.

Dept. NE-2 DEMPSTER BROTHERS • Knoxville 17, Tennessee

▲ For more details circle **NED-946 B** on enclosed inquiry slip ▲

▲ For more details circle NED-952 B on enclosed inquiry slip ▲

Maintains Accurate Web Register Within Plus or Minus .010 Inch!

World's most efficient, economical side register control! Unique Stanford vacuum principle instantly, accurately corrects any change in web path. Eliminates telescoped and out-of-register rolls . . . prevents spoilage . . . permits full-speed operation.

Unconditionally Guaranteed!

Saves Big Money on Coating, Slitting, Printing, Laminating, etc.—any operation, any material, any width.

30-Day Test Trial in Your Plant—Write, Wire or Phone for Details!

Stanford ENGINEERING COMPANY
Salem, Illinois • Phone: Salem 553
Canadian Rep.: Gordon Keats, 133 Flora Dr., Scarborough, Ont.
Mfrs. of Slitters, Web Guides, Rewinding and Constant Tension Equipment

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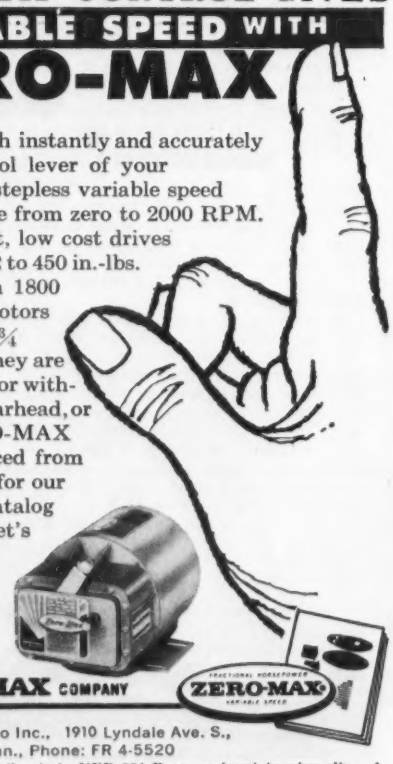
FINGERTIP CONTROL GIVES VARIABLE SPEED WITH ZERO-MAX



A finger's touch instantly and accurately sets the control lever of your ZERO-MAX stepless variable speed drive anywhere from zero to 2000 RPM. These compact, low cost drives produce from 2 to 450 in.-lbs. of torque with 1800 RPM input motors of from 1/8 to 3/4 horsepower. They are available with or without reverse, gearhead, or motors. ZERO-MAX drives are priced from $37.00. Write for our free 16-page catalog or refer to Sweet's Product Design File.

Representatives in major cities

THE ZERO-MAX COMPANY

Subsidiary of Revco Inc., 1910 Lyndale Ave. S., Minneapolis 5, Minn., Phone: FR 4-5520

▲ For more details circle NED-954 B on enclosed inquiry slip ▲

New Literature & Catalogs

Vibrating Coolers & Dryers

Jeffrey Mfg. Co.—Both direct and indirect types of electric and mechanical vibrating type coolers and dryers are detailed in 32 pages of Catalog 953. Sections on basic drying principles and the TMV variable amplitude unit are among contents. Pages are devoted to such auxiliary equipment as feeders, conveyors, magnetic separators, packers, controls, and Waytrol constant weight feeder.

▲ For more details circle NED-955 B on enclosed inquiry slip ▲

Electrically Vibrated Screens

W. S. Tyler Co.—Ore, silica sand, clay, chemicals, or similar material coming in contact with the Hummer electrically vibrated screen is stratified, with coarser particles forced up and away from the surface and the finer particles working downward for separation. Screens are described in detail, and their dimensions and applications covered, in 24-page Catalog 83.

▲ For more details circle NED-956 B on enclosed inquiry slip ▲

Making Laboratory Glassware

Doerr Glass Co.—Step-by-step photographic story of the art of glass blowing as used in making laboratory glassware is presented in the brochure, "Behind the Diamond D." Twenty-four pictures cover the manufacture of a Diamond D cylinder. Cost comparison table and a seven-step method for evaluating laboratory glassware are also among contents.

▲ For more details circle NED-957 B on enclosed inquiry slip ▲

Die Cast Zinc Gears & Pinions

Gries Reproducer Corp.—Transmission problems involving small, light-load gearing can be solved by the use of die cast zinc one-piece gear and pinion combinations, available from stock dies. Among parts detailed in 10-page Catalog 3001 are gear and pinion, flanged pinion, and cup gear and pinion. Design variations and specifications are included.

▲ For more details circle NED-958 B on enclosed inquiry slip ▲

Fire Alarm Systems

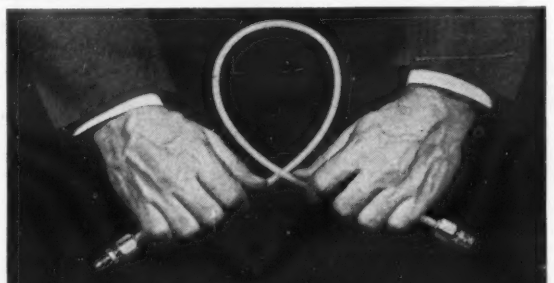
Standard Electric Time Co.—Extensive line of fire alarm systems for industrial and other types of buildings is subject of 36-page illustrated Catalog 246. Covered are March Time, master coded, and box coded systems, plus components and accessory equipment. Typical job specifications are included for all systems.

▲ For more details circle NED-959 B on enclosed inquiry slip ▲

Hand Tools

Vaco Products Co.—Punched for insertion into Master Catalog SD-56, series of 10 individual catalog sheets describes a number of small hand tools. Included are nut drivers, nut driver-screwdriver, adjustable wrenches, pliers, interchangeable tool kits, Allex hex drivers, and slimline screwdrivers.

▲ For more details circle NED-960 B on enclosed inquiry slip ▲



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. . . the strong, flexible polyamide tubing with

- high burst rating at low cost
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Information on characteristics, properties, application, tubing accessories and tools.

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POLYPENCO

POLYPENCO nylon, POLYPENCO Teflon†, NYLAFLOW® and NYLATRON® GS
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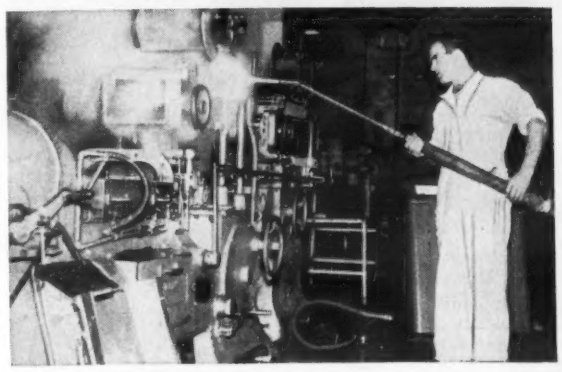
SAVE UP TO 80% CLEANING TIME

in your plant with an all-electric "E-350" Hypressure Jenny®. Operating without flame,



fumes, or excessive fog, this tough, cost-cutting unit enables you to clean and sanitize equipment, even when plant is in operation, without annoyance to workers. Starts instantly; operates quietly; simple and easy to use. Full details? Write or check item number.

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Hypressure Jenny Division, Coraopolis, Pa.
(In Canada: Hypressure Jenny Sales & Service, Ltd., 517 Jarvis Street, Toronto 5, Ont. C.S.A. Approved)

▲ For more details circle NED-962 B on enclosed inquiry slip ▲

FLEXIBLE HEAT

with new, flexible SILICONE RUBBER HEATERS by WATLOW

the convenient, efficient answer to many design problems involving heat:

- **NEW FLEXIBILITY, VERSATILITY!** Because they are thin, flexible and can be molded in a wide variety of sizes in any plane shape, Watlow Flexible Silicone Rubber Heaters can be used any place that heat up to 400°F. is required. Readily bonded to any surface to which rubber will adhere. Where rigidity is required, units can be supplied with thin aluminum backing.
- **LEAD WIRES WHEREVER YOU WANT THEM!** Teflon, or Fibreglas insulated or any other type of wire, from any place along edge or surface of heater.
- **BUILT-TO-LAST CONSTRUCTION!** Finely wound nickel-chromium resistance wires are embedded in silicone rubber reinforced with Fibreglas. Waterproof, tool

WRITE FOR ILLUSTRATED LITERATURE.

WATLOW ELECTRIC MFG. CO.
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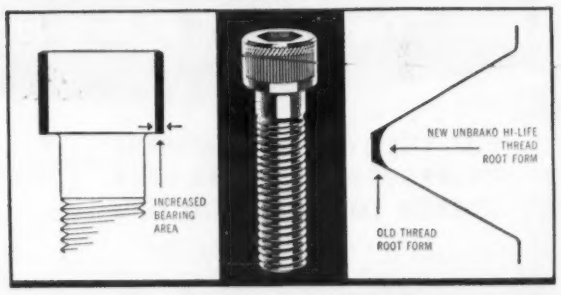
St. Louis 14, Missouri

▲ For more details circle NED-963 B on enclosed inquiry slip ▲

All-new UNBRAKO socket screw!



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- New pHd* head design (1960 Series) provides up to 2⅓ times as much clamping power.
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- Fits standard tapped holes and nuts, takes standard gages.
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Only all-new UNBRAKO gives you both the pHd head *and* improved Hi-Life thread—in a standard screw at no extra cost. See your SPS distributor or write for new Bulletins 2406, 2577.

*pHd stands for "proper head design"—a factor in higher product reliability.

INDUSTRIAL FASTENER Division SPS
JENKINTOWN 24, PENNSYLVANIA

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LEAK PROOF
Hydraulic GREASE FITTINGS

MANUFACTURERS OF LUBRICATION FITTINGS AND ACCESSORIES
For our new Industrial Catalog write
UNIVERSAL LUBRICATING SYSTEMS, Inc.
Industrial Division • Oakmont, Pa.

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SAVES UP TO 50% OF INSTALLATION COSTS
- FASTER TO INSTALL
- QUICKER TO REARRANGE
- STRONGER
- PHOSPHATIZED FINISH
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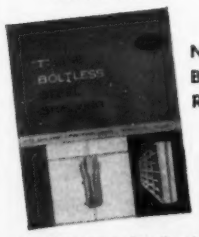

NEW BULLETIN B-40 REQUEST IT!

ALAN WOOD STEEL CO.
PENCO DIVISION
406 BROWER AVE., OAKS, PA.

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Speedline® FLANGES
SIMPLIFY PROCESS PIPING ASSEMBLY

- Expander and wrench *only tools necessary*
- Expanding feature assures leakproof joints
- No heat-affected zone
- Easier . . . faster than welding

Speedline's *complete line* of long tangent fittings simplifies pipe-connection problems—reduces assembly time, cuts costs. A Distributor near you stocks Speedline fittings—ask him for more information about the "extra length" feature, or write for a Speedline catalog.

1002

Speedline CORROSION-RESISTANT FITTINGS
Stainless Steel • Aluminum • Special Alloys

Mfg. by HORACE T. POTTS COMPANY • 532 E. Erie Avenue • Philadelphia 34, Pa.

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Soft-Face Hammers

Metocraft Alloy & Plastic Co.—Plastic hammers, with or without replaceable screw-on plastic tips, are described in 6-page illustrated soft-face hammer catalog. Also described are a "no-bounce" hammer, babbitt hammers, and tamper drifts.

▲ For more details circle **NED-968 B** on enclosed inquiry slip ▲

Over 750 Springs

Lee Spring Co.—Engineering data and prices on over 750 different springs that are available from stock are contained in 20-page Catalog 100. Both compression and extension types in stainless steel and music wire are available.

▲ For more details circle **NED-969 B** on enclosed inquiry slip ▲

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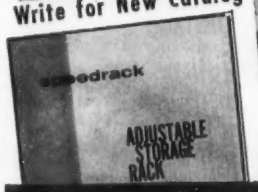

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CHARACTERISTICS

ANALYSIS	RECOMMENDED USE
1 Stainless Steel Ball and Race	For types operating under high temperature (800-1200 degrees F.).
2 Chrome Alloy Steel Ball and Race	For types operating under high radial ultimate loads (3000-893,000 lbs.).
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SOUTHWEST PRODUCTS CO.
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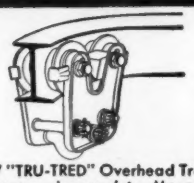
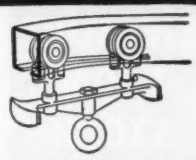
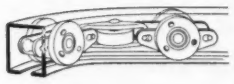
R-W OVERHEAD CONVEYORS
. . . a type and size to meet your exact requirements!



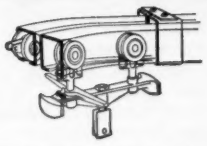
R-W "TRU-TRED" Overhead Track Systems . . . heavy-duty Monorail Systems capable of carrying up to 8,000 lbs. Available in a complete range of sizes. Designed to provide years of dependable trouble-free operation. Request Catalog No. A-64.



R-W "SAFE-RAIL" Overhead Conveyors include a complete range of enclosed trolley track and equipment that will easily handle up to 1,000 lb. loads quickly and efficiently. Request Catalog No. A-94.



R-W "ZIG-ZAG" Continuous Powered Conveyors. Extremely flexible . . . carries unit loads up to 125 lbs. Economical to purchase and install. Easily modified, relocated or extended by plant personnel. Request Catalog No. A-93.



R-W "TWIN-TRAK" Overhead Automatic Dispatch System consists of one or more power tracks and as many free or storage tracks as desired. Provides automatic selective control over product movement through an entire plant. Request Catalog No. F-192.

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"Low Drain" Transistorized Mobile Unit

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COMMUNICATIONS DIVISION
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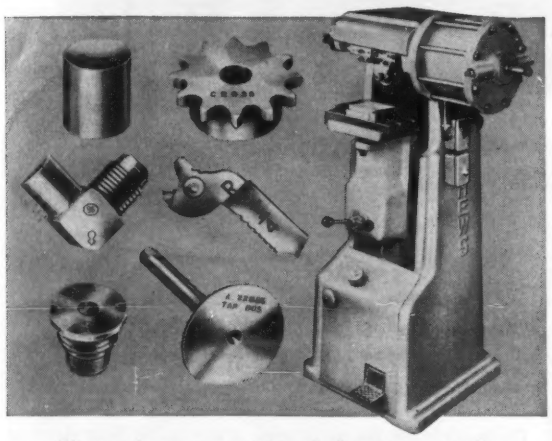
for rounds or flats



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For Immediate Delivery

*Rotameters and Flow Indicators, too.

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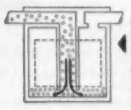
Guided Bucket—Hexagonal tube guides bucket. Keeps all parts in proper alignment—prevents bucket damage.



Reverse Flow Feature—keeps bucket stationary even under heavy loads—cleans trap of sediment and dirt.

Mail coupon for free engineering catalog, "How To Select Steam Traps and Other Fluid Specialties".

ANDERSON SUPER-SILVERTOP

The Engineered Steam Trap

THE V. D. ANDERSON COMPANY
division of International Basic Economy Corp.
1988 West 96th St. • Cleveland 2, Ohio
Please send without obligation your catalog "How To Select Steam Traps and Other Fluid Specialties".
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Company
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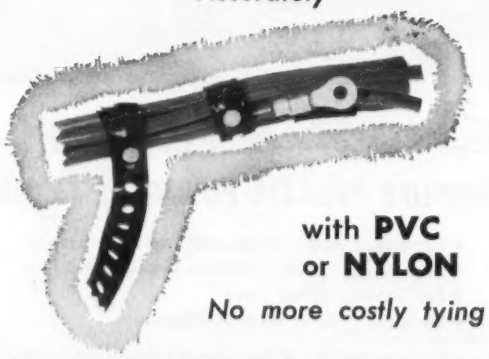

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for quick economical fastening use TOWNSEND TUBULAR RIVETS AND MACHINES

The combination of Townsend tubular rivets and setting machines gives you a fast, economical assembly method for a variety of metals, plastics and fabrics.

The Townsend Tubular Rivet Setting machines are versatile and can be tooled for almost any size and shape of work. They are available in floor and table models.

Townsend tubular rivets are available in steel, brass, copper, aluminum and other special materials. Quick delivery is assured.

For information write to **Townsend Company, Engineered Fasteners Division, P.O. Box 71-G, Ellwood City, Pennsylvania.**

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IF YOU HAVE THREADED FITTINGS YOU NEED LED-PLATE ANTI-SEIZE SEALING COMPOUND

ASSEMBLY MAINTENANCE PRODUCTION

HIGH TEMPERATURE ANTI-SEIZE
No heat freeze, Temp. range - 350°F to + 2987°F
MEETS GOVERNMENT SPECIFICATIONS
Mil-A-907 QPL-907

NO GALLING OR SEIZING recommended for aluminum, stainless, titanium, plastic, steel, brass, etc.
HIGH PRESSURE SEALANT a real thread sealer, pressures held to 50,000 psi hydraulic fluids, 3500 psi air, 1000 psi gases. Has UL approval. For gases, steam, air, ammonia, hydraulic fluids.
CORROSION PROTECTION no corrosion weld, prevents rusting, acid-etch, etc.

SPECIFICATION COMPOUNDS IN STOCK

JAN-A-669
MIL-T-5544
MIL-A-13881

SPEC. OXYGEN SEAL
NAVORD OSTD-53
CUSTOM COMPOUNDING

SEND FOR FREE SAMPLE!

APPROVED for Butane, Propane, Gasoline, Petroleum Oils.

ARMITE LABORATORIES
6609 Broad St., Los Angeles 1, Calif. U.S.A.

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HIGH TORQUE—SMALL SIZE

Stearns MODEL "GS" electro-magnetic disc

CLUTCH

Sets new standards of reliability and maintenance convenience.

TORQUE RANGE —
Dry—12 to 1260 lb ft
Wet (oil)—
16 to 1140 lb ft

SIZE RANGE —
Diameter—4½ to 9¼ inches
Length—3½ to 6 inches

WEIGHT—11 to 79 lb

New, High Torque, Stearns Model GS Clutches — Save on Space . . . Save on installation . . . Save on maintenance . . . Save on machine downtime . . . Save on faster, smoother, more efficient machine operation . . . Save on longer life — low-cost "wear" elements can be replaced "quick-as-a-wink" with just a screw driver as your complete tool kit.

Start Saving Right Now by calling your local Stearns representative. Or write, stating your specific requirements, directly to Stearns.

For Superior Performance . . . Specify Stearns!

Request Bulletin 226-D

Stearns ELECTRIC CORPORATION
120 NORTH BROADWAY
MILWAUKEE 2, WISCONSIN
Phone: BRoadway 1-2200

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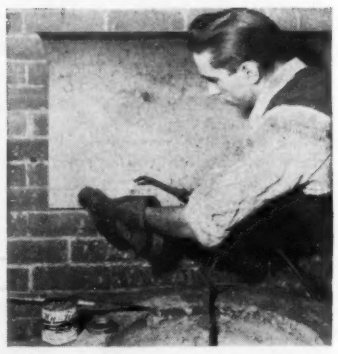
NEW WAY TO GALVANIZE METAL



This new method of restoring damaged galvanizing which occurs during welding, saves time by coating the welded metal giving it the non-corrosive properties of the original hot dipped galvanizing. Tests prove FARCO BRAND Z will withstand 800 hours salt spray bath without rusting. The powerful flux causes the metallic content to coat any metal including Copper, Stainless Steel, Monel, Bronze, Nickel, Chromium and Evanohm.

Although strong enough to remove scale from black iron and penetrate rust and grease, it is completely stable and will not pick up moisture or deteriorate in the can.

Material does not leave a line of demarcation but amalgamates with galvanizing. It may be applied in flat, vertical or overhead position binding more tightly than hot dipped and will not flake off. The material may be applied with either torch or soldering iron depending on thickness of metal.

FARCO BRAND Z is available in 2 pound cans at $3.00 each. 10% discount on six can lots, fob Philadelphia.

Have you tried #1 Acid Brushes, 25% more hair, $3.50 per gross, f.o.b. Philadelphia *Advt.*

FARRELLOY CO.
1246 North 26th St. Phila. 21, Pa.

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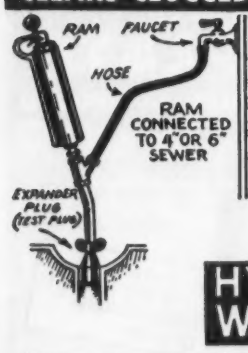
CLEARS CLOGGED DRAINS in Seconds!



The ideal plumbing service tool. Can pay for itself in one application!

Smashes through the most stubborn blockages, then flushes clean — all in one operation!

Comes equipped with self-contained manual compressor (can charge Ram to 100 lbs. in 30 seconds!) and drain adaptors in 6 sizes!

HYDRAULIC WATER RAM

Anyone can operate it! Thousands already in use, have saved *millions* of dollars in industry and institutions. Why lose time, suffer inconvenience, waste dollars needlessly on either completely blocked or slow-moving sewers, drains, fixtures? The HYDRAULIC WATER RAM clears severest stoppages with SPLIT-SECOND HYDROSTATIC IMPACT! . . . Shatters blockage, then flushes clean. No snakes, chemicals, cables. No pushing through. Works perfectly, *vent or no vent!* Nothing to wear out. You risk nothing on our 30 day free trial offer, at our expense. Write for details.

Works perfectly with all clogged fixtures, toilets, sinks, urinals, etc. Equipped with 4" rubber cone, ideal for toilets, *plus* set of 5 tapered adaptor plugs for other drains or sewers.

Write for Information, Prices, Free Trial Offer — Today!

HYDRAULIC MANUFACTURING CO.
214 INDUSTRIAL HEIGHTS KIEL, WISCONSIN

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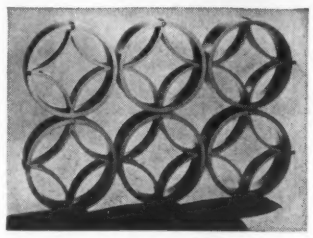
New Processes & Materials

DECORATIVE GRILL for solar shading, in 11 hues



Alshade decorative grill for achieving a textured look in architecture is available in this Shad-O-Wheel pattern for solar shading. Three variations of the pattern are being made and all three are finished in a choice of 11 Alumalure colors. An accessory extruded frame, in the same colors, is optional. Alshade can be used to reface older buildings, as overlays of lobby walls, vision screens on terraces, and solar screens for major buildings. It is priced from $2.50 to $4.00 per square foot. • **Aluminum Co. of America**, 721 Alcoa Bldg., Pittsburgh 19, Pa.

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CAULK & SEAL COMPOUNDS also used as grout and bonding agent

Series 1190 two-component caulking and sealing compounds have chemical and physical characteristics that suit them for construction and maintenance applications. They can be used to bond new concrete to old, as a grout, for cementing traffic markers to asphalt or concrete surfaces, as a primer for asphalt or mortar overlay, to fill spalled areas, and as a protective coating for steel, concrete, and wood. They will bond antislip sand and grit to streets and highways, as well as steel to steel or dissimilar materials. Compounds resist water, vapors, acids, oils, bases, and calcium chloride solution; are noncorrosive to metal; will not shrink; and apply easily by hand, putty knife, brush, or trowel. • **American-Marietta Co.**, Presstite Div., 39th & Chouteau Avenues, St. Louis 10, Mo.

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PASTE WOOD can be finished, worked with tools

Hardening quickly without shrinking after application, Magic Wood in paste form can be nailed, screwed, sawed, and sanded when dry. It is applied with a putty knife and will stick to metal, masonry, and other building materials. Stain, paint, or varnish finishes can be applied. Available colors are natural, maple, birch, redwood, mahogany, oak, and walnut. • **Magic Iron Cement Co.**, 5403 Bower Ave., Cleveland 27, Ohio.

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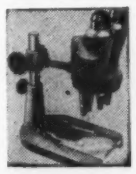
UNUSUAL BARGAINS

Check, Measure, Inspect with this 6 POWER POCKET COMPARATOR
(Complete with Leather Case)

MEASURES • Angles • Radii • Circles • Linear—in both decimal inches and millimeters.
Used to check layouts, machining on tools, dies, gauges; to check threads, chamfers, wear on cutting tools, etc.
Stock No. 30,061-AE . . New Low Price $19.50 Pstpd.
Send Check or M.O.—or order on open account.

HANDY! FAST! ACCURATE!

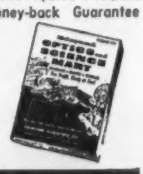


STEREO-MICROSCOPE Terrific Buy! American Made!
Other American made Stereos cost $250.00 to $600.00 and more! Now—save well over 50%! Up to 3" Working Distance—Wide 3 Dimensional Field—Used in production, in research, or at home; for inspections, examinations, counting, checking, assembling. 2 sets of objectives on rotating turret. Standard pair of wide field 10X Kellner Eyepieces give you 23 power and 40 power clear, sharp, erect image. Helical rack and pinion focusing. Interpupillary distance adjustable. SO GOOD, WE'LL SHIP ON 10-DAY FREE TRIAL. Stock No. 85,056-AE—full price, $99.50 f.o.b. Barrington, N. J.

GIANT MAGNETS! TERRIFIC BARGAINS!
War surplus—Alnico V-type! Horseshoe shape. Tremendous lifting power. 5 lb. size. Dimensions: A—3¼"; B—2¾"; C—4-3/16"; D—1¼"; E—1¼"; F—2⅝". Strength is about 2,000 Gauss. Will lift over 125 lbs.
Stock No. 70,183-AE ..... $8.50 ppd.

24" GOOSENECK MAGNIFIER WITH CLAMP-ON BASE
A 3" diameter magnifier mounted on a 24" long flexible gooseneck. Clamp it on machines, desks, workbenches, etc. Clamp opens to 1 13/16".
Stock No. 70,235-AE .....$8.95 Postpaid
Order by Stock No.—Check, M.O. or Open Account—Money-back Guarantee

FREE! Giant CATALOG of OPTICAL BUYS!
OVER 1,000 OPTICAL ITEMS . . . Many on-the-job helps . . . quality control aids! 128 pages—hundreds of illustrations. Many war surplus bargains! Imported instruments! Lenses, Prisms, Magnifiers, Telescopes, Satellite Scopes, Microscopes, Binoculars, etc. Optics for industry, research lab, experimenters, hobbyists, math learning aids. No obligation. Write for FREE Catalog AE



EDMUND SCIENTIFIC CO., Barrington, N. J.

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NEW! B&D 3/8" SCRU-DRILL combines Drill & Screwdriver

Now you can drill a hole, drive a screw, run a nut and remove screws, nuts, bolts, etc., with the same tool! New Black & Decker 3/8" SCRU-DRILL gives you versatility plus convenience. Perfect for all types of drilling and screwdriving jobs. See one today!

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Black & Decker
QUALITY ELECTRIC TOOLS

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One MANeuver!

MAGLINER MOBILE LOADING RAMPS go where you go . . . provide a loading dock *where* you need it, *when* you need it! Magnesium-light construction for easy one man handling—anytime, anyplace. The result: easier work, happier men . . . *lower cost loading*! If you load or unload trucks or railcars from ground level, you'll want a copy of Magline's Bulletin —"Everyday Ground-Level Loading Problems and How to Solve Them."

WRITE TODAY FOR BULLETIN DB-211
Magline Inc., P. O. Box 162, Pinconning, Michigan

MAGLINER MOBILE LOADING RAMPS

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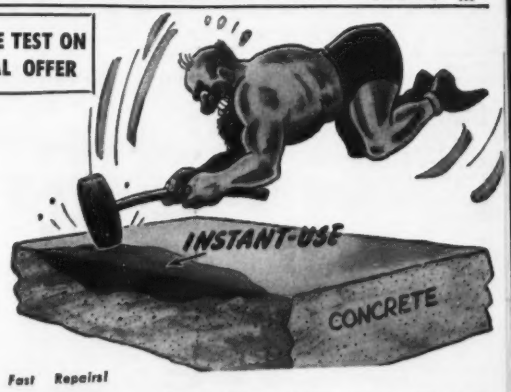
MAKE TEST ON TRIAL OFFER



Tough, Fast Repairs!

INSTANT SETTING FLOOR PATCH

Repair broken factory floors without the usual traffic tie-up. Simply shovel INSTANT-USE into hole or rut—tamp smooth—truck over! No waiting! INSTANT-USE bonds tight to old concrete—right up to a feather edge. It's tough. Wears like iron. Won't crack or crumble. Install complete overlay where floors are badly chewed up. Used indoors or out. Immediate shipment.

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INSTANT-USE

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Please send me complete INSTANT-USE information, details of TRIAL ORDER PLAN and Free INSTANT-USE BROCHURE—no obligation. (Clip and attach Coupon to Co. letterhead.)

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